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ENAMAP-1A Long-Term SO2 and Sulfate Air Pollution Model: Refinement of Transformation and Deposition Mechanisms

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Menlo Park, CA

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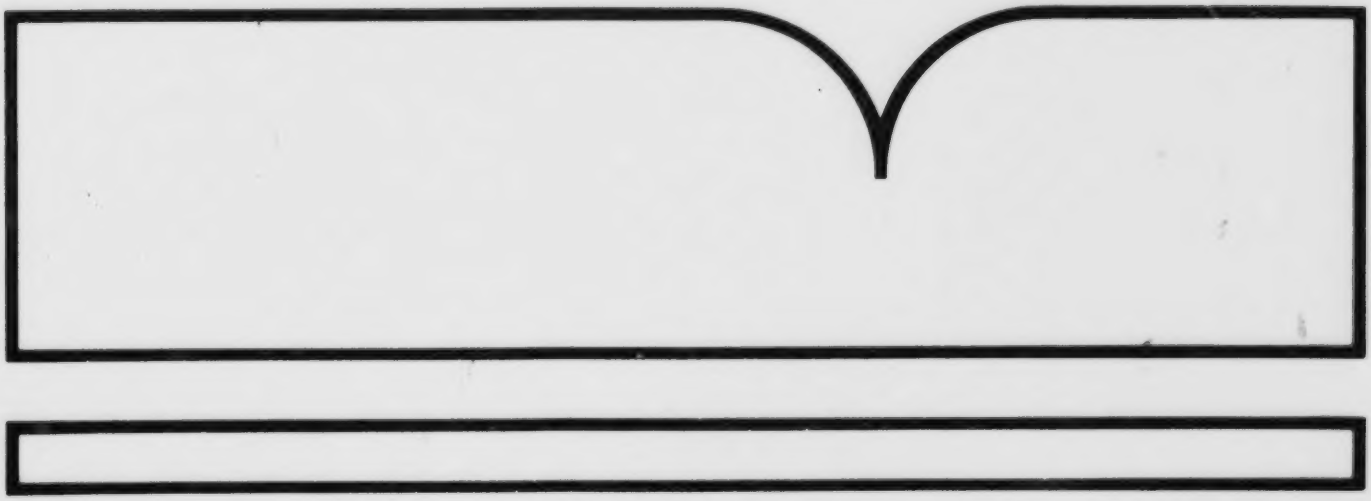

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ENAMAP-1A LONG-TERM SO_2 AND SULFATE AIR POLLUTION MODEL
Refinement of Transformation and Deposition Mechanisms

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by

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16. ABSTRACT The ENAMAP-1 model for long-range air pollution transport has been modified in several ways to produce a newer version, ENAMAP-1A. The geographic region of the modeled domain has been increased to include southeastern Canada, and the meteorological and emission data for this area have been added to the U.S. data base. The transformation rate for SO_2 to $SO_4^=$ and the deposition rates of SO_2 and $SO_4^=$ have been updated. In ENAMAP-1 these rates are all constants; in ENAMAP-1A they are variable in space and time. The transformation rate has been made dependent on the amount of sunshine (i.e. a function of latitude and season) and is about twice as large as the previous rate. In ENAMAP-1A the dry deposition rate has been made dependent on the type of underlying terrain and vegetation, on thermal stability in the boundary layer, and on time of day. Wet deposition is treated as a function of rainfall rate and cloud type (convective, warm process, or Bergeron process). Boundary exchanges of SO_2 and $SO_4^=$ have been computed for each of 41 states (or provinces) and also for 12 especially sensitive areas of special interest such as parks. The computations show the history of pollution from emission to deposition and are documented in the form of maps and tables. In contrast to ENAMAP-1 computations, ENAMAP-1A computations for January and August 1977 have much larger amounts of $SO_4^=$ in the form of airborne concentration and deposition, while the amount of SO_2 deposition is decreased.

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ABSTRACT

The ENAMAP-1 model for long-range air pollution transport has been modified in several ways to produce the newer version, ENAMAP-1A. The geographic region of the modeled domain has been increased to include more of southeastern Canada; the meteorological and emission data for this area have been added to the U.S. data base. The transformation rate for SO_2 to $SO_4^=$ and the deposition rates for SO_2 and $SO_4^=$ have been changed to agree with recent published values. In ENAMAP-1 these rates were all constants; in ENAMAP-1A they are variable in space and time. The transformation rate has been made a function of latitude and season. The new transformation rate is on the average about twice as large as the old one. In ENAMAP-1A, the dry deposition rate has been made dependent on the type of underlying terrain and vegetation, on thermal stability in the boundary layer, and on time of day. The wet deposition is treated as a function of rainfall rate and cloud type (convective, warm process, or Bergeron process).

We have run ENAMAP-1A for each day of January and August 1977 and have computed average monthly values of airborne concentration, dry deposition, and wet deposition for SO_2 and $SO_4^=$. The boundary exchanges of SO_2 and $SO_4^=$ have been computed for each of 41 states (or provinces) and also for 12 especially sensitive areas (such as parks) of special interest. The computations show the history of pollution from emission to deposition and are documented in the form of maps and tables.

In contrast to the previous computations using ENAMAP-1, the new computations have much larger amounts of $SO_4^=$ in the form of airborne concentration and deposition, while the amount of SO_2 deposition is decreased. The total sulfur deposition (SO_2 and $SO_4^=$ combined) is approximately 40 percent of the previously computed value in winter and 70 percent of the previous value in summer.

Because measurements of dry and wet deposition of SO_2 and $SO_4^=$ are not available, the ENAMAP-1A computations can be only partially verified by comparison to air quality measurements (SO_2 and $SO_4^=$ airborne concentrations). Scatter diagrams of calculated and observed concentrations show reasonably good agreement for SO_2; however, computed $SO_4^=$ concentrations are usually too large. This may be interpreted as tentative evidence that the new transformation rate is too large on the average or that $SO_4^=$ deposition is too low.

We are making further changes to ENAMAP-1A to increase its accuracy and versatility. The boundary layer is being divided into three sublayers with vertical mixing between them, and the transport winds are being adjusted for the effects of mountainous terrain. NO_x emissions and NO_x chemistry will later be included in the model.

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SECTION 1

INTRODUCTION

Under contract to the U.S. Environmental Protection Agency (EPA), SRI International (SRI) developed and evaluated an eastern North American Model of Air Pollution (ENAMAP-1) (Bhumralkar et al., 1980a). The ENAMAP-1 model was adapted from the SRI-developed European Model of Air Pollution (EURMAP). It is designed to study the long-term transport and deposition of airborne sulfur pollutants from industrial sources and to calculate ambient sulfur concentrations for monthly, seasonal, and annual time periods over the eastern United States and Canada. The model has been used to calculate exchanges of airborne sulfur among various U.S. and Canadian regions. ENAMAP-1 was further tested to study the variability of the model's calculations of seasonal sulfur concentrations and depositions due to year-to-year changes in the wind and precipitation patterns, as described by Bhumralkar et al. (1980b).

Under a subsequent contract with EPA, SRI continued work on further development of ENAMAP-1. A new version of the model, designated as ENAMAP-1A, has been developed by modifying the modeling domain of ENAMAP-1 to include the area bounded by 29°N and 55°N latitude and 60°W and 104°W longitude. Other modifications include:

- Treating most states and Canadian provinces as separate receptor and emitter areas; in addition, considering 12 smaller receptor areas.
- Incorporating more realistic deposition and transformation coefficients.
- Specifying land-use and geographical characteristics for each receptor area.

ENAMAP-1A has been applied to emissions and meteorological data for January and August 1977 and the results have been compared with the measured concentrations as well as with the results of ENAMAP-1.

This report describes the refinements to the model and the results of applying it to two months' data. Section 2 describes the revised wet and dry deposition (removal) rates for SO_2 and $SO_4^=$ and the transformation rate for SO_2 to $SO_4^=$. These parameters are now allowed to vary in time and space over the modeling domain. This section also discusses the changes in the domain of the emitter and receptor regions. Section 3 presents a review of the additional input data used for the Canadian region. Emissions, meteorological data, and air quality data are described. Section 4 provides the results of model runs for January and August 1977. Plots of SO_2 and $SO_4^=$ concentrations and wet and dry depositions over Eastern North America are included. The impact of sulfur emissions from each state/province on every other state/province in the model domain are presented in tabular form. Section 5 analyzes the impact of emissions on 12 special areas--regions (such as state parks and recreational areas) in which it is important to assess present pollutant levels now and project them for the future. Section 6 presents an evaluation of model performance in predicting SO_2 and $SO_4^=$ concentrations and compares the results of ENAMAP-1A with monitored air quality data. Section 7 summarizes and reports the conclusions of the study and future research.

SECTION 2

DESCRIPTION OF ENAMAP-1A MODEL

Background

As stated in Section 1, ENAMAP-1 has been updated in various ways in the course of developing ENAMAP-1A. Table 1 lists the principal features common to both models. The differences between them are described later in this section. Algorithms for wet and dry deposition rates and transformation rates have been developed, with the EPA project monitor's approval, to take into account temporal and spatial variability in the parameters. These algorithms have been formulated on the basis of an extensive literature search; they represent the state-of-the-art treatment of dry and wet deposition in long-range transport models. These algorithms will be discussed below. Other modifications include increasing the size of the modeling region domain and calculating the pollutant impact on 12 especially sensitive areas. A description of the model's basic structure, including grid cell sizes and the puff advection and diffusion scheme, has been presented previously by Bhumralkar et al. (1980a). Pollution being transported into the model domain from the west and background concentrations are not considered: The results calculated by the model are the direct result of emissions from within the model domain only.

TABLE 1. PRINCIPAL COMMON FEATURES OF ENAMAP-1A AND ENAMAP-1

Feature	Derivation
Emission rate	Data provided by season
Transport windspeed (V)(m s^{-1}) and direction (θ)	Derived by integrating winds over boundary layer
Mixing height (h) $h = h_0 + \zeta\Lambda^*$	$h_0 = 1.3$; $\zeta = -0.15$

*Λ is a seasonal parameter taken as +1 in winter, -1 in summer, and 0 in spring and fall.

Features of ENAMAP-1A

Extension of Model Domain

Figure 1 shows the boundaries of ENAMAP-1A's model domain. This region covers the area between 29°N and 55°N latitude and 60°W and 104°W longitude. It represents the addition of 560 km (eight 70-by-70-km grid cells) to the northern side and 210 km (three 70-by-70-km grid cells) to the eastern side of the previous grid. This extension to the model domain provides increased coverage of southern and eastern Canada. The model has been modified to calculate interregional exchanges of sulfur pollution between 41 states and provinces (as opposed to 13 EPA and Canadian regions in ENAMAP-1). Figure 1 shows the locations of the state/province emitter-receptor regions. (The interstate/province exchange results are presented in Section 4.)

Impact on Special Areas

The impact of sulfur pollution on 12 selected sensitive areas has been calculated for January and August 1977. These areas were chosen by the EPA project monitor and are considered to be sensitive to sulfur deposition. Figure 2 shows the locations and names of the sensitive areas. (Results are presented in Section 5.)

Treatment of Chemical Transformation

The transformation rate for SO_2 to $SO_4^=$ is expressed as the sum of two components: a homogeneous transformation rate (based on the work of Altschuller, 1979) and a heterogeneous transformation rate. We have calculated the homogeneous rate as a function of solar insolation (i.e. latitude and season) from rates for clean air given in Altschuller's Figure 2. They are midday values; diurnally averaged rates (for use in the model) are one-third as large. In addition, Altschuller states that the diurnally averaged rates should be multiplied by a factor of approximately three to account for the increased transformation in polluted air. The equation and empirical constants that are used to represent this homogeneous transformation rate are given in Table 2. The rates obtained in this way are lower than many values given in the literature (e.g., Möller, 1980); therefore we have increased them by multiplying them by an additional arbitrary factor of 2. Table 2 shows the resulting rates for 35° and 45°N. These rates are well within the range of normally accepted values; however, the arbitrary factor can be altered as additional information becomes available.

The term for the heterogeneous conversion of SO_2 to sulfate is based on the review by Möller (1980). There seems to be uncertainty in the literature as to the relative importance of the various heterogeneous conversion mechanisms described by Möller, particularly the differentiation between the strong oxidizing agents (such as H_2O_2 and O_3) and the effect of metallic catalysts on conversion. Because of the difficulty in determining the relative importance of the various heterogeneous conversion mechanisms, a constant conversion rate of 0.005 (0.5 percent h^{-1}) for the heterogeneous conversion is used in the model. The total transformation rate varies from approximately 0.01 in winter to 0.04 in summer.

Treatment of Dry Deposition

Because of the natural variability of dry deposition, ENAMAP-1A treats it as a function of land-use type, stability, and time of day. Land-use type is defined by the surface characteristics (land type or water) and the type of vegetation. Land-use type (from Sheih et al., 1979)

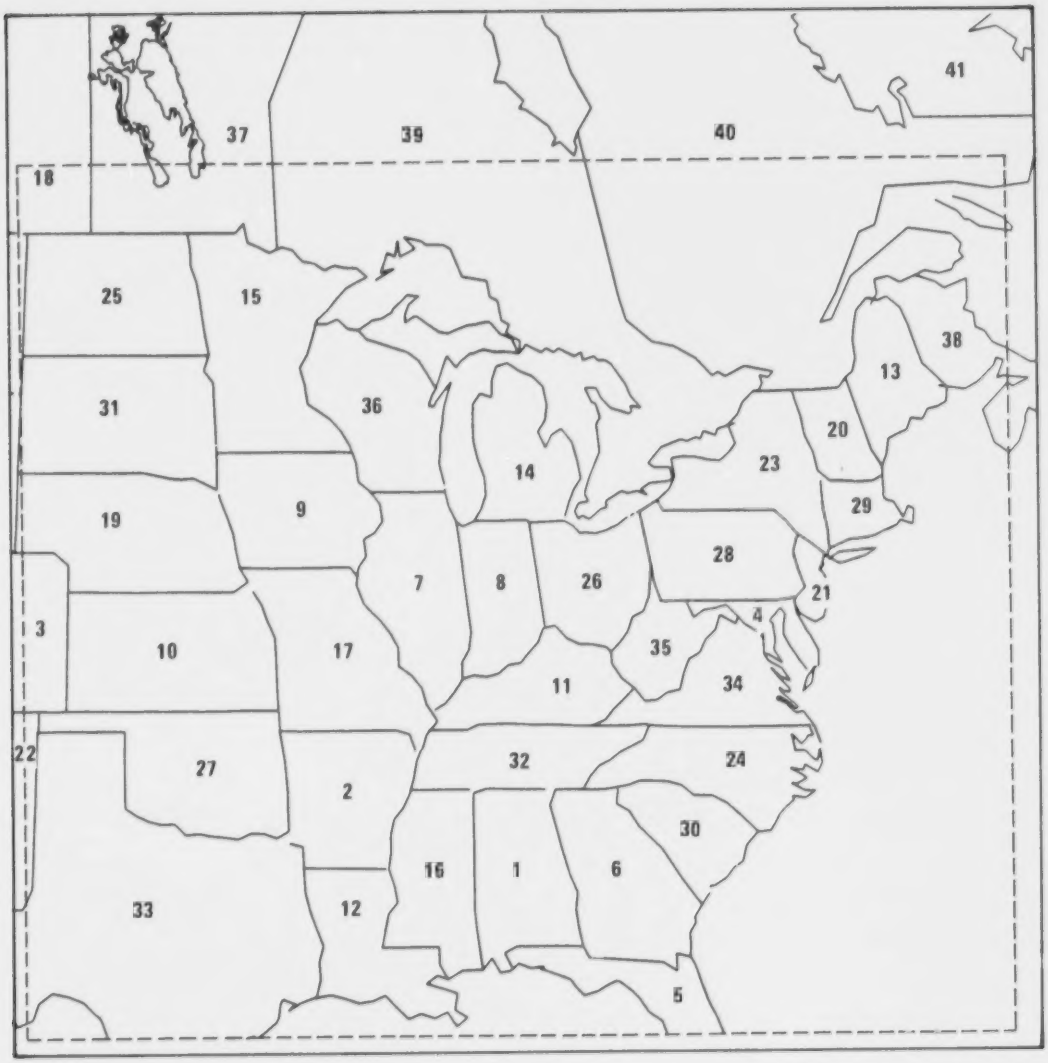


FIGURE 1 EASTERN NORTH AMERICA MODEL DOMAIN

Dashed line indicates domain of ENAMAP-1

FIGURE 2 SENSITIVE RECEPTOR AREAS

TABLE 2. TRANSFORMATION RATE (h^{-1}) FOR SO_2 AND $SO_4^=$ BASED ON HOMOGENEOUS MECHANISMS

Rate: $K_l = 2[a + b \ln (\text{latitude } °N)]/100$

Season	Empirical Constants		Transformation Rate (h^{-1}) at	
	a	b	35°N Latitude	45°N Latitude
Summer	6.3	-1.4	0.0265	0.0194
Fall/spring	4.4	-1.0	0.0169	0.0119
Winter	2.5	-0.61	0.0066	0.0036

was gridded to each 70-by-70-km receptor cell to incorporate dry deposition variability at this resolution. Figure 3 illustrates land-use type by receptor grid. Dry deposition velocities for each land-use type for SO_2 and $SO_4^=$ for January (winter) and August (summer) for stability classes 1 through 6 (very unstable through very stable) are applied in ENAMAP-1A. Dry deposition velocities for three stability classes are shown in Tables 3 and 4. To account for the low adsorption by plant surfaces at night, SO_2 and $SO_4^=$ dry deposition velocities have been reduced to 0.07 cm s^{-1} during nighttime hours. The length of night is adjusted for each season. This nighttime value, based on recent empirical data, was suggested by Clark (1981).

Treatment of Wet Deposition

Wet deposition is treated as a function of season and rainfall rate (mm h^{-1}). The removal rates are based primarily on the work of Scott (1978), who presented graphs of the washout ratio as a function of precipitation rate and three cloud types: cold clouds (in which nucleation of rain is essentially caused by the Bergeron or ice growth process), warm or maritime clouds, and convective clouds. The rate constant for wet deposition, K_w, is proportional to the washout ratio, ξ, and the rate of precipitation, R (as well as the density of the droplet and inversely proportional to the density of air and to cloud height, all taken to be constants). Thus,

$$K_w \propto \xi R \quad .$$

From Scott's work, an empirical relationship can be calculated between the washout ratio, ξ, and precipitation rate, R, in the form

$$\xi = cR^{\beta} \quad ,$$

where $\beta < 0$ and c is a constant. From this equation, it is seen that

$$K_w \propto cR^{1+\beta} \quad ,$$

or

$$K_w = aR^b \quad .$$

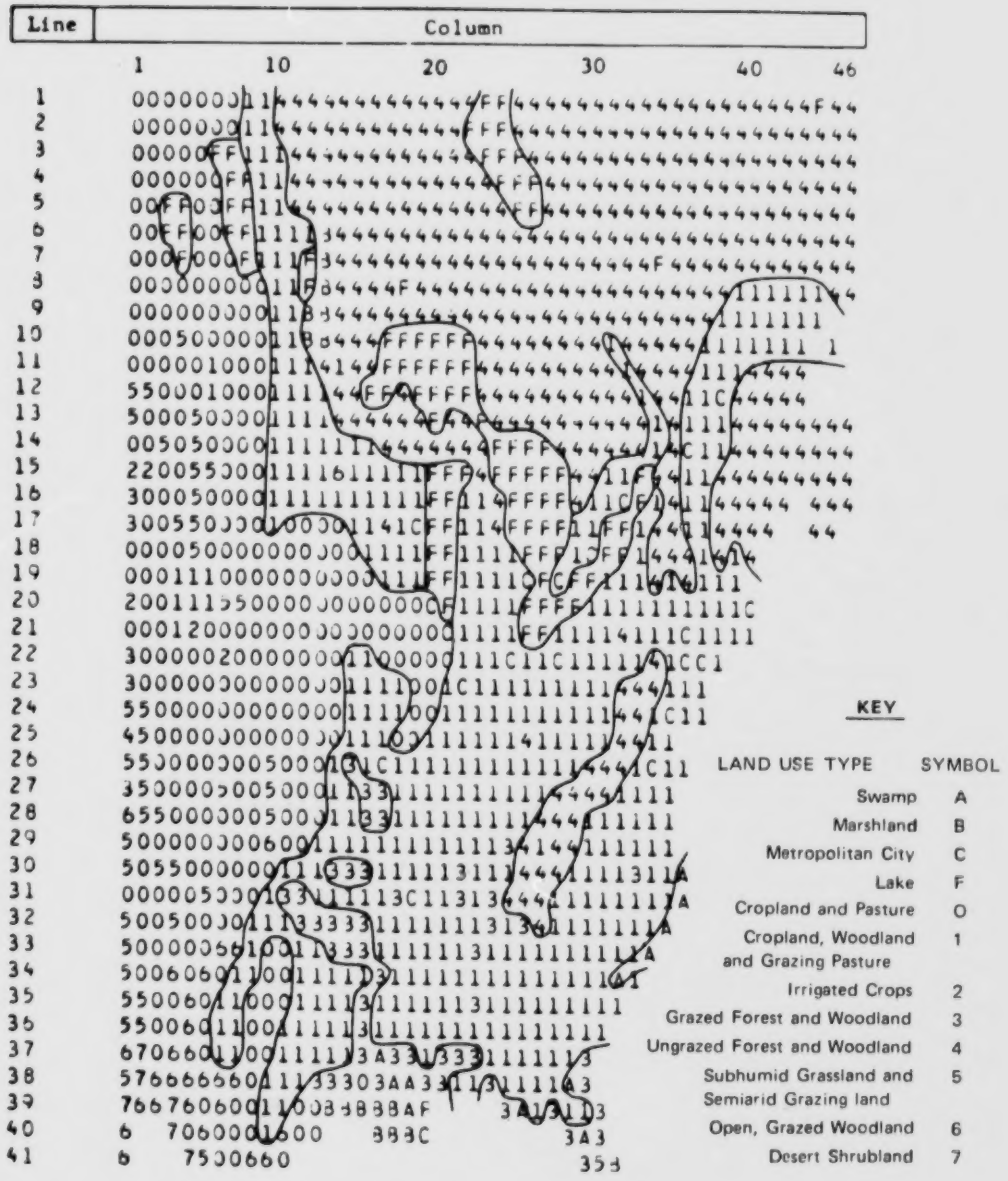


FIGURE 3 LAND-USE TYPES USED FOR DRY DEPOSITION CALCULATIONS

TABLE 3. SO_2 DRY DEPOSITION VELOCITIES (cm s^{-1}) BY LAND USE TYPE

Land-Use Type	Winter			Summer		
	Slightly Stable	Neutral	Slightly Unstable	Slightly Stable	Neutral	Slightly Unstable
Swamp	0.45	0.65	0.65	0.55	0.95	0.75
Marshland	0.25	0.35	0.35	0.05	0.35	0.85
Metropolitan city	0.55	0.65	0.65	0.05	0.05	0.05
Lake or ocean	0.35	0.75	0.55	0.35	0.75	0.55
Cropland and pasture	0.25	0.45	0.45	0.05	0.35	0.75
Cropland, woodland and grazing pasture	0.55	0.75	0.75	0.05	0.35	0.75
Irrigated crops	0.25	0.35	0.35	0.05	0.35	0.85
Grazed forest and woodland	0.25	0.35	0.35	0.05	0.35	0.85
Ungrazed forest and woodland	0.25	0.35	0.35	0.05	0.35	0.85
Subhumid grassland and semiarid grazing land	0.25	0.45	0.45	0.05	0.25	0.75
Open, grazed woodland	0.25	0.45	0.45	0.05	0.25	0.75
Desert shrubland	0.25	0.35	0.35	0.05	0.35	0.85

TABLE 4. $SO_4^=$ DRY DEPOSITION VELOCITIES (cm s^{-1}) BY LAND USE TYPE

Land-Use Type	Winter			Summer		
	Slightly Stable	Neutral	Slightly Unstable	Slightly Stable	Neutral	Slightly Unstable
Swamp	0.65	0.75	0.75	0.65	0.85	0.85
Marshland	0.85	0.95	0.95	0.85	0.95	0.95
Metropolitan city	0.85	0.95	0.95	0.85	0.95	0.95
Lake or ocean	0.25	0.35	0.35	0.25	0.35	0.35
Cropland and pasture	0.35	0.55	0.45	0.65	0.85	0.85
Cropland, woodland and grazing pasture	0.65	0.85	0.85	0.75	0.85	0.85
Irrigated crops	0.85	0.95	0.95	0.85	0.95	0.95
Grazed forest and woodland	0.85	0.95	0.95	0.85	0.95	0.95
Ungrazed forest and woodland	0.45	0.95	0.95	0.85	0.95	0.95
Subhumid grassland and semiarid grazing land	0.35	0.55	0.45	0.65	0.85	0.85
Open, grazed woodland	0.35	0.55	0.45	0.65	0.85	0.85
Desert shrubland	0.85	0.95	0.95	0.85	0.95	0.95

For the model, we have assumed that winter precipitation follows the Bergeron process, that fall and spring precipitation are warm cloud phenomena, and that summer precipitation is confined exclusively to the convective type of precipitation. The semiempirical representation of these removal rates for $SO_4^=$ and also for SO_2 for use in the model is shown in Table 5. To keep the algorithm for the SO_2 component of the washout consistent with that for $SO_4^=$, we have relied on the work of Chamberlain (1953) in regard to gaseous SO_2. The seasonal variation in the parameters a and b for SO_2 were adopted to reflect the variation obtained by Scott for sulfate. They may be revised at a later date when data can be obtained to make a more appropriate distinction between summer and winter washout of gaseous SO_2.

TABLE 5. WET DEPOSITION RATE (h^{-1}) FOR SO_2 AND $SO_4^=$ BASED ON THE PRECIPITATION RATE, R (mh^{-1})

Rate: $K_w = (aR^b)$

Pollutant	Season	Empirical Constants		Wet Deposition Rate (h^{-1}) for 5 mm h^{-1} of Rain
		a	b	
SO_2	Summer	0.14	0.12	0.1698
	Fall/spring	0.036	0.53	0.0845
	Winter	0.009	0.70	0.0278
$SO_4^=$	Summer	0.39	0.06	0.4295
	Fall/spring	0.091	0.27	0.1405
	Winter	0.021	0.70	0.0648

The choice of these parameters has resulted in a significant difference in the treatment of wet deposition in ENAMAP-1 and ENAMAP-1A. In ENAMAP-1, the wet removal rate was four times greater for SO_2 than for $SO_4^=$ for both January and August. The SO_2 removal rate in ENAMAP-1A is approximately 40 times lower than in ENAMAP-1 for January and five times lower in August. The $SO_4^=$ wet removal rate in ENAMAP-1A is approximately five times lower than in ENAMAP-1 in January and two times higher in August. Naturally, these changed rates produce large differences in the wet deposition patterns and statistics, as is shown later.

SECTION 3

REVIEW OF THE DATA BASES

The three Canadian data bases (which were added to the existing data for the United States) are meteorological (winds and precipitation), SO_2 and $SO_4^=$ emissions, and air quality (SO_2 and $SO_4^=$ ambient concentrations). A detailed description of the data bases used for the U.S. portion of the ENAMAP-1A domain is given by Bhumralkar et al. (1980a); a review of Canadian data is given below.

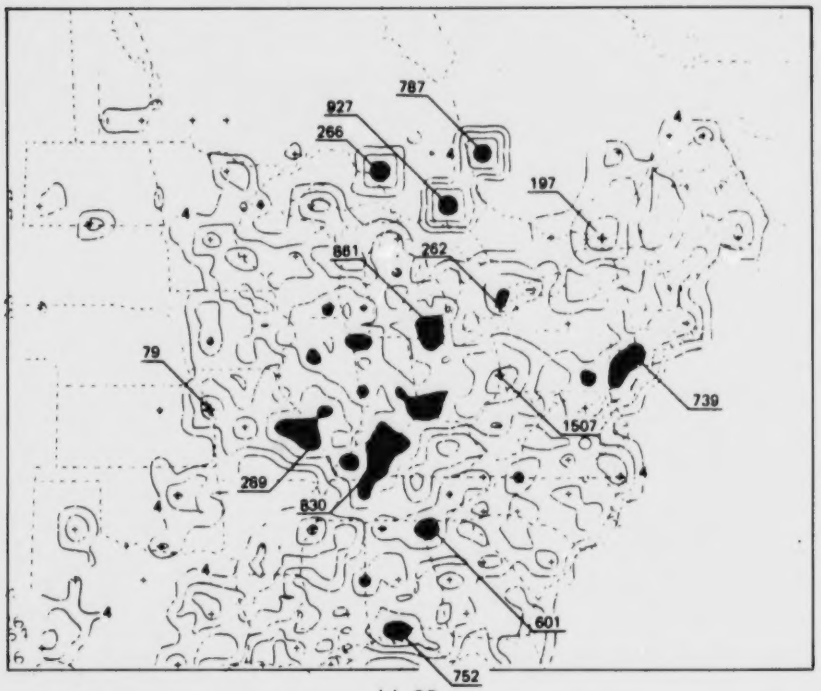
Emissions Data Base

The Canadian emissions data base furnished by Environment Canada gives point and area sources separately. Point sources were gridded to the 80-by-80-km emissions grid, which is also used for U.S. sources, using the latitude and longitude of each point source. All point source emissions within each grid cell are combined and treated as a single source by the model. Because Canadian area source emissions were furnished on a grid with 127-by-127-km grid cells, this grid size was used for Canadian area sources.

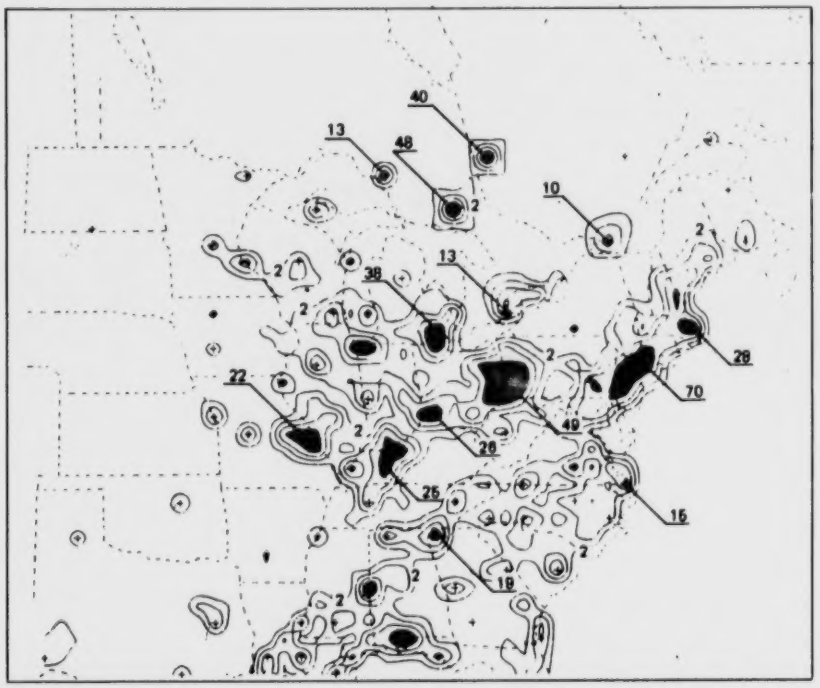
Canadian data provide only SO_2 and not $SO_4^=$ emissions; therefore, the ratio of $SO_4^=$ to SO_2 from the SURE emissions data for each season was used to compute separate SO_2 and $SO_4^=$ emission rates. Figure 4 shows the average annual values of SO_2 and $SO_4^=$ emissions for 1977. For four of Canada's largest sources (namely, Inco, Sudbury, and the Lakeview, Lambton, and Nanticoke Plants of Ontario Hydro) the Canadian emissions data include seasonal variations of the sulfur emissions.

Air Quality Data Bases

To evaluate ENAMAP-1A results for the extended domain in Canada, two air quality data bases were obtained. Monthly average SO_2 and $SO_4^=$ concentrations for January and August 1977 for Ontario were supplied by the Ontario Ministry of the Environment. Air quality data from monitors that were not source-oriented were used. Monitored SO_2 concentrations for Quebec, New Brunswick, and Nova Scotia were supplied as monthly averages by Atmospheric Environment of Canada. It was not possible to ascertain which monitors in Quebec and provinces to the east were source-oriented. The concentration levels were suspiciously high, possibly because of local sources, so these data were not used. Because the air quality data were already averaged at each site for the month, it remained only to grid the data. To average out (as much as possible) unrepresentative local values, SO_2 and $SO_4^=$ concentration averages were computed for 140-by-140-km grid squares.



(a) SO_2



(b) $SO_4^=$

FIGURE 4 ANNUAL SO_2 AND $SO_4^=$ EMISSIONS FOR 1977 (10^{-1} ton km^{-2})

Meteorological Data

Historical meteorological data for this study (upper-air winds and surface data) for Canada were obtained from the National Climatic Center (NCC) in Asheville, North Carolina. Over the entire domain, 64 upper air stations, 224 surface stations, and 2400 precipitation stations were used to determine the meteorological inputs to the model. Data-processing programs were used to create three-hour averages of the meteorological data and to grid the data to the 70-by-70-km weather grid of ENAMAP-1A. Processing included integrating the winds over the mixing depth and gridding the wind, precipitation, stability data. Information on the U.S. meteorological input to ENAMAP-1A is contained in a report by Bhumralkar et al. (1980a). The processing of the Canadian meteorological data is described below.

Program WINFIL was used to determine the surface and upper-air wind direction and speed at each grid cell. The objective analysis scheme that was used for obtaining grid-point values of upper-air winds was based on a distance-weighted averaging of five observations. The winds aloft were integrated over the layer between the surface and the 850 mb level. The weighting factor for a particular observation was calculated by

$$W = C^2/(C^2 + R^2) \quad , \qquad (1)$$

where C is the weighting constant (set to 70 km) and R is the distance in km between the observation point and the grid point. To ensure that data from the full surrounding region were used to determine a grid value, one station from each 90° sector adjacent to the grid cell was used along with the next-closest station as the fifth station. The west-east component (U) and the south-north component of the wind (V) were interpolated separately for each cell, using the same five stations with their appropriate weights.

The same objective analysis scheme and weighting factor were used to calculate surface winds and fractional cloud cover from surface data taken at six-hourly intervals. The surface wind speed and cloud cover, along with the time of day, are then used to calculate the stability class for each cell using Turner's method (1969). Stability classes 1 (very unstable) through 6 (very stable) are defined, based on the above input.

As described by Mayerhofer (1980) the precipitation analysis method used in ENAMAP-1 has been replaced with a modified form of the EPA precipitation-gridding programs. In the ENAMAP-1 version, missing observations were treated as if no precipitation was measured at the site; consequently, analyzed precipitation tended to be low. The new method averages hourly precipitation data for the stations within each grid cell in which precipitation occurred. Figure 5 shows the measured total monthly precipitation amounts for January and August 1977.

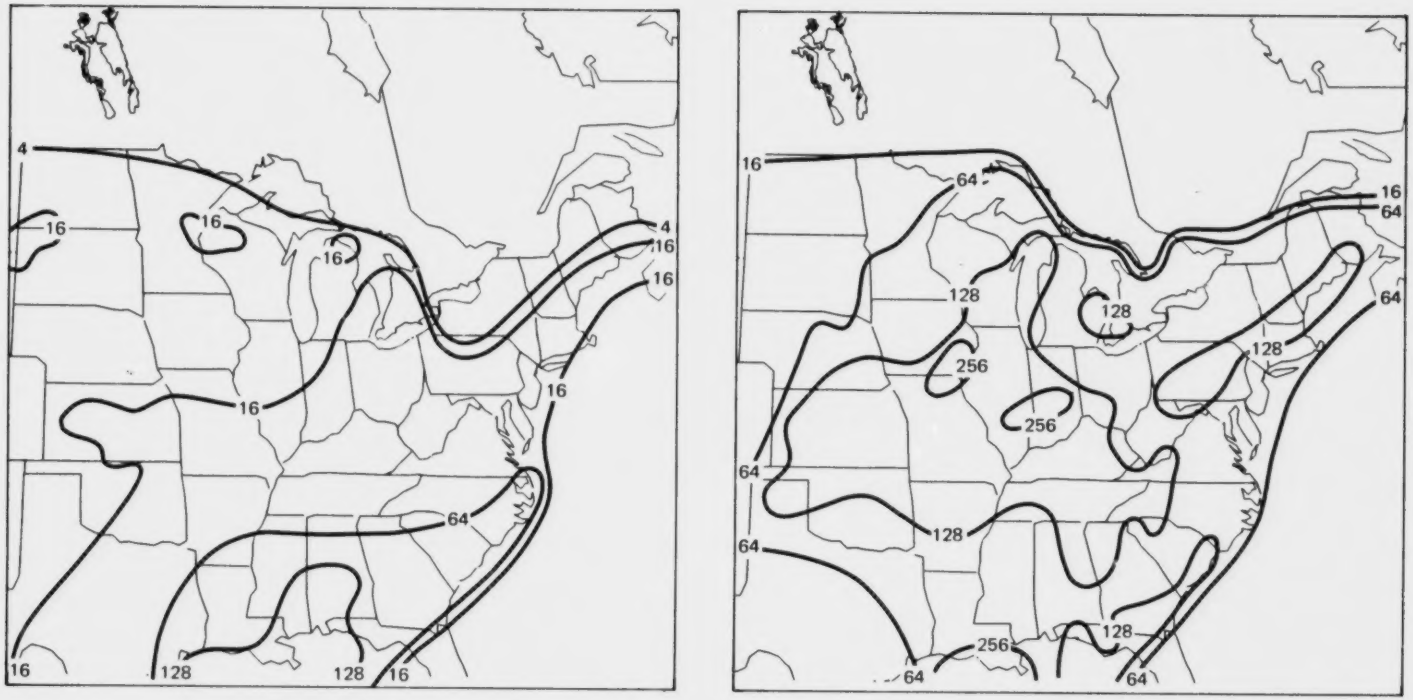


FIGURE 5 MEASURED MONTHLY PRECIPITATION (mm) FOR JANUARY AND AUGUST 1977

SECTION 4

RESULTS OF MODEL APPLICATION FOR JANUARY AND AUGUST 1977

General

To determine the effects of using the new sulfur deposition and transformation algorithms as described in Section 2, the model was run for the months of January and August 1977. Separate runs were made for the states/provinces for which emissions were available. For each month, fields of SO_2 and $SO_4^=$ concentrations, dry deposition, and wet deposition resulting from sulfur emissions in each of the individual areas were then combined into maps showing the monthly area totals. Interregional exchange tables were also generated. These results are shown in this section and in the Appendices.

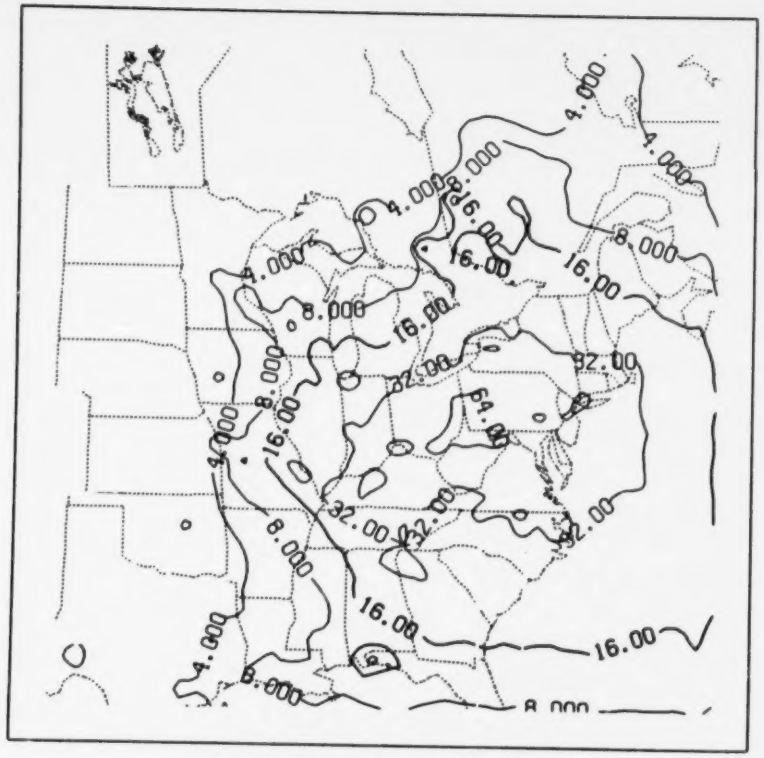
For comparison purposes, plots of SO_2 and $SO_4^=$ deposition and concentration patterns and source/receptor tables from the previous version of the model (ENAMAP-1) are included in this section.

SO_2 and $SO_4^=$ Concentrations

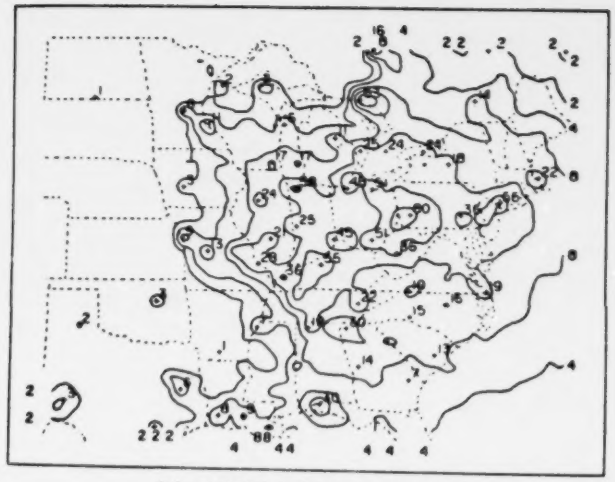
January

The calculated concentrations for January 1977 are shown in Figure 6. The measured values of the SO_2 concentrations are averaged over 140-by-140-km grid squares. The monitoring stations included in the figure are those used for the ENAMAP-1 validation as well as Ontario stations that are considered rural. The area of maximum concentration ($\geq 64\ \mu g\ m^{-3}$) is near Pittsburgh. The general areas of calculated and observed SO_2 concentrations are in good agreement, except that calculated concentrations are low ($10\ \mu g\ m^{-3}$ versus $52\ \mu g\ m^{-3}$) in northern border states such as Wisconsin. Concentrations calculated by ENAMAP-1A are more spread out (that is, they are higher at the northern and southern boundaries of the model domain) than those calculated by ENAMAP-1 (Figure 6). The concentrations from the new model run are closer to the measured values in this respect; previously the calculated concentrations were too low in southern states such as Alabama and Georgia. The slightly higher SO_2 concentrations calculated by ENAMAP-1A are due to its much lower wet and dry removal rates, which counteract the higher transformation rate.

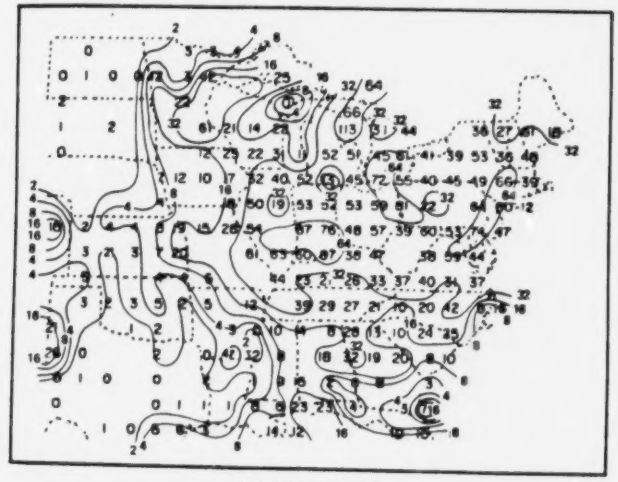
Figure 7 shows the measured and calculated concentrations of $SO_4^=$ from ENAMAP-1 and ENAMAP-1A for January 1977. The ENAMAP-1A results are approximately twice as large as both the previously calculated values and the measured values, but the pattern of the isopleths is very similar to the earlier run. The reason for the higher $SO_4^=$ concentrations calculated by ENAMAP-1A is the higher transformation rate and lower wet removal rate, which overshadow the higher dry removal rate.



(a) CALCULATED BY ENAMAP-1A

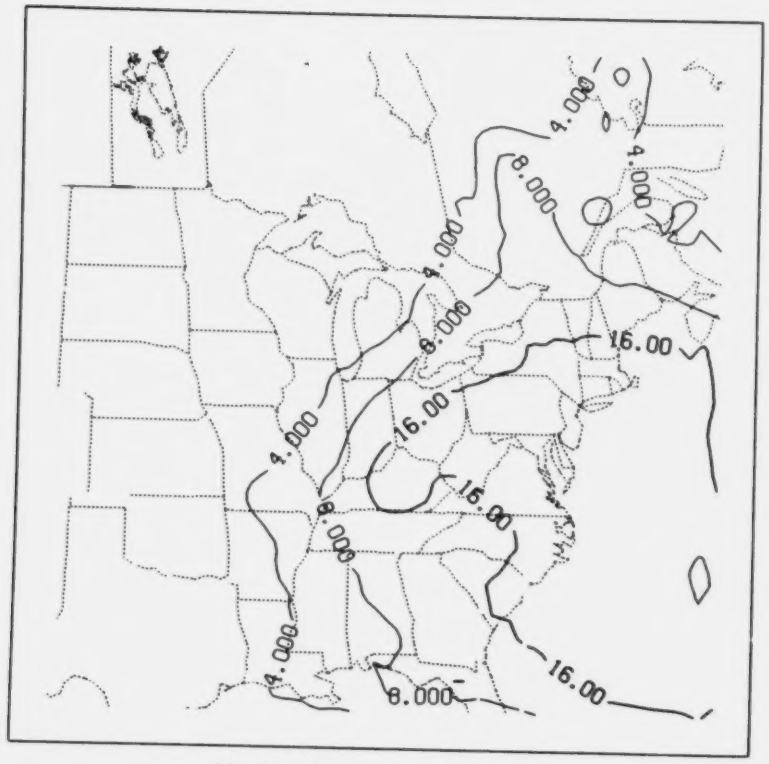


(b) CALCULATED BY ENAMAP-1

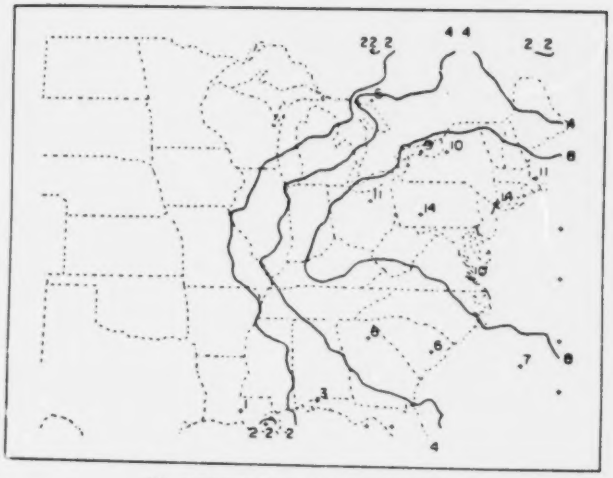


(c) MEASURED

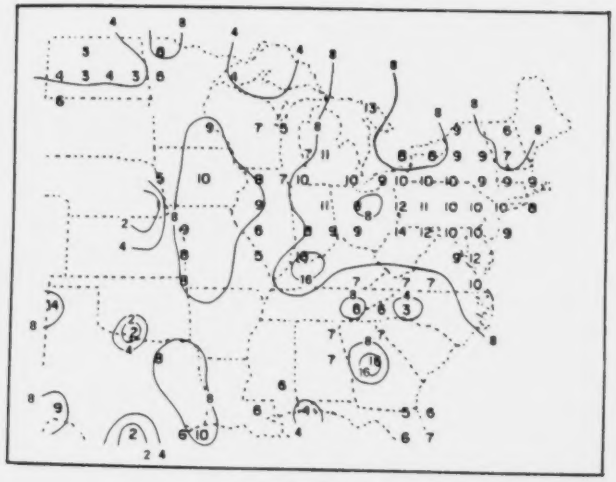
FIGURE 6 SO_2 CONCENTRATIONS ($\mu g\ m^{-3}$) FOR JANUARY 1977



(a) CALCULATED BY ENAMAP-1A



(b) CALCULATED BY ENAMAP-1



(c) MEASURED

FIGURE 7 $SO_4^=$ CONCENTRATIONS ($\mu g\ m^{-3}$) FOR JANUARY 1977

August

The calculated SO_2 concentrations for August 1977 compare favorably with the measured concentrations both in regard to pattern and magnitude (Figure 8). The new model results (from ENAMAP-1A) in the northern and southern states are higher than the previous model results (from ENAMAP-1), which make them closer to the measured values in these areas. The higher SO_2 concentrations calculated by ENAMAP-1A are due to the lower wet and dry removal rates, even though the transformation rate is higher.

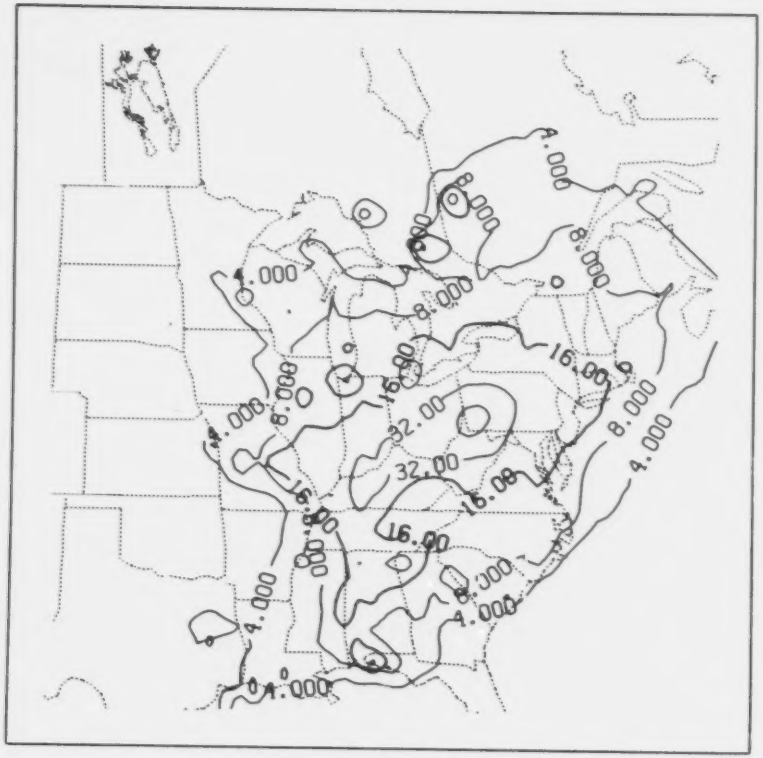
The calculated and measured $SO_4^=$ concentrations are shown in Figure 9. As in the January $SO_4^=$ model results, the August $SO_4^=$ concentrations from ENAMAP-1A increased by a factor of two over the previously calculated concentrations. This unfortunately makes them much higher than the measured values. The new calculated concentrations are higher than the previous values because of the higher transformation rate, although the wet and dry removal rates are also several times higher than before.

Tables 6 and 7 (for January and August) show the effect that the new wet and dry removal and transformation rates have on the calculations of ENAMAP-1 and ENAMAP-1A. The comparisons are for SO_2 and $SO_4^=$ emitted from Illinois, Indiana, and Ohio (Region V-South). In January (Table 6) the wet removal of SO_2 decreased from 145.6 kton to 7.2 kton, a factor of approximately 20. Dry deposition also decreased, whereas the transformed $SO_4^=$ increased by a factor of approximately 2.6. For this reason the calculated $SO_4^=$ concentrations are increased, and the amount of $SO_4^=$ leaving the model domain is greater for ENAMAP-1A.

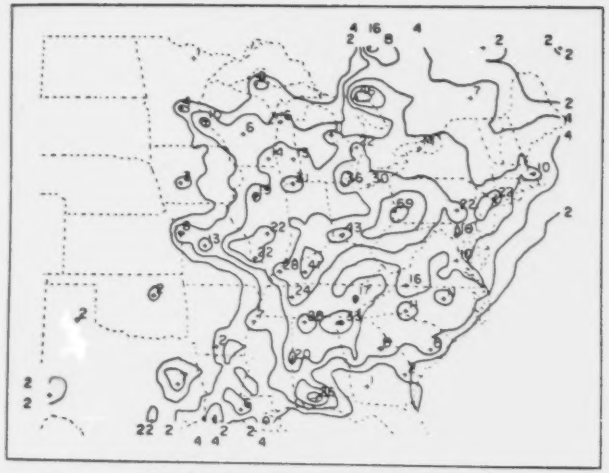
Table 7 shows the comparable figures for the month of August. In ENAMAP-1A the conversion of SO_2 to $SO_4^=$ is 4.5 times greater than in ENAMAP-1 because of a higher transformation rate. Lower wet and dry depositions of SO_2 were observed in the ENAMAP-1A results. Both the wet and dry deposition of $SO_4^=$ increased by a factor of approximately 4.7.

Wet and Dry Depositions

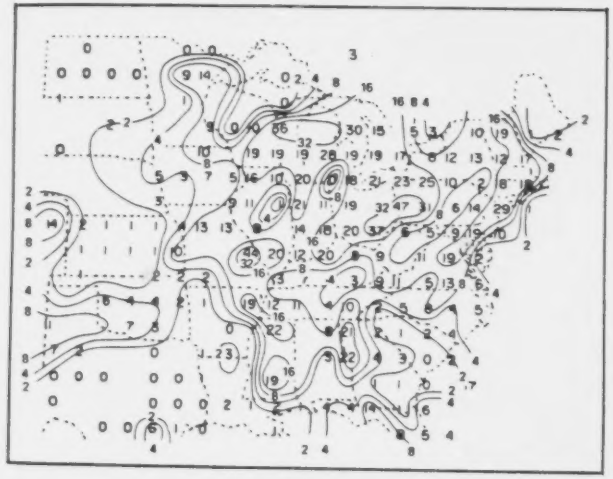
In this section we compare wet and dry deposition maps from ENAMAP-1A and ENAMAP-1. Figure 10 shows the calculated SO_2 dry deposition during January. Dry depositions calculated by ENAMAP-1A are much lower than the ENAMAP-1 results, which display a closed isopleth of 1024 mgm^{-2} of SO_2 deposition over eastern Pennsylvania (absent in ENAMAP-1A results). Figure 11 shows the January SO_2 wet deposition results. This figure indicates that the wet deposition was drastically reduced by using the new coefficients in ENAMAP-1A. This is the largest change of any of the SO_2 or $SO_4^=$ wet or dry deposition results. Figure 12 shows the January dry deposition results for $SO_4^=$ from both model versions. The new dry deposition of $SO_4^=$ is increased by a factor of approximately two, similar to the change in $SO_4^=$ concentration. Figure 13 indicates that wet $SO_4^=$ deposition results were reduced in ENAMAP-1A because of the lower wet removal rate. Comparable figures for August are displayed in Figures 14 through 17. The increases or decreases in deposition of ENAMAP-1A compared to ENAMAP-1, shown in the figures of the entire model domain, are in the same direction as the changes indicated in Tables 4 and 5 (for Illinois, Indiana, and Ohio).



(a) CALCULATED BY ENAMAP-1A

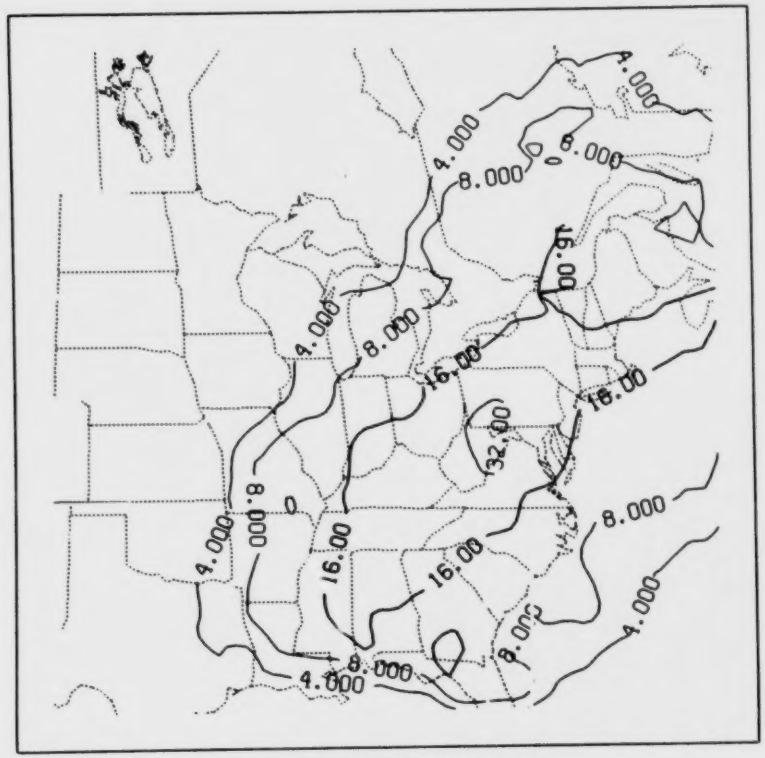


(b) CALCULATED BY ENAMAP-1

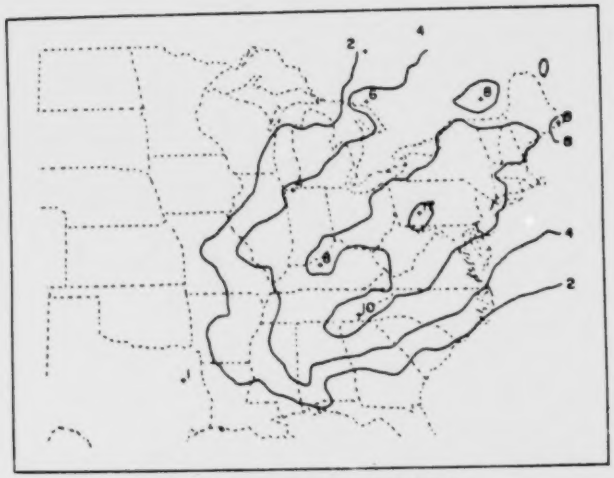


(c) MEASURED

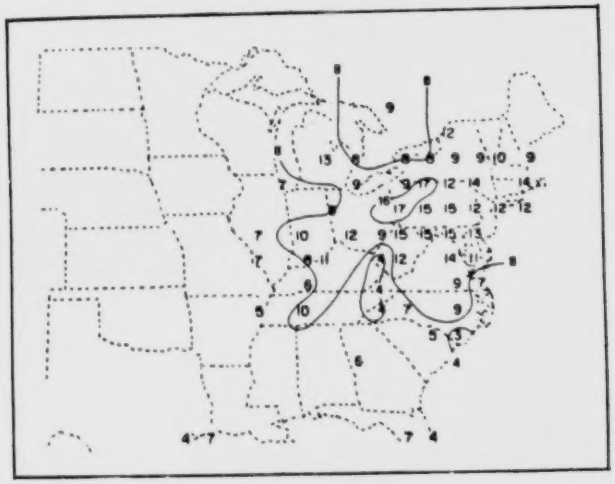
FIGURE 8 SO_2 CONCENTRATIONS ($\mu g\ m^{-3}$) FOR AUGUST 1977



(a) CALCULATED BY ENAMAP-1A



(b) CALCULATED BY ENAMAP-1



(c) MEASURED

FIGURE 9 $SO_4^=$ CONCENTRATIONS ($\mu g\ m^{-3}$) FOR AUGUST 1977

TABLE 6. COMPARISON OF ENAMAP-1A AND ENAMAP-1 BUDGETS FOR ILLINOIS, INDIANA, AND OHIO EMISSIONS (kton) FOR JANUARY 1977

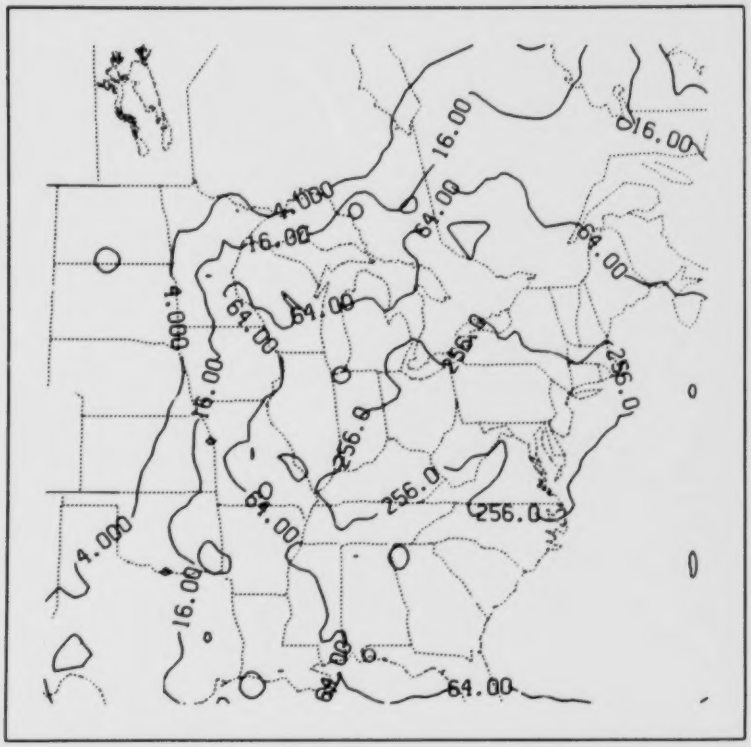
Process	ENAMAP-1	ENAMAP-1A
SO_2		
Total SO_2 emitted	638.7	645.1
Wet deposition	-145.6	-7.2
Dry deposition	-372.7	-213.5
Flux*	-19.7	-165.4
Transformation ($SO_2 \rightarrow SO_4^=$)	-100.7	-259.0
$SO_4^=$		
Total $SO_4^=$ emitted and transformed	165.9	403.8
Wet deposition	-44.6	-11.7
Dry deposition	-44.3	-131.7
Flux*	-77.0	-260.4

*Flux is the amount of SO_2 or $SO_4^=$ that was transported out of the model domain by the wind.

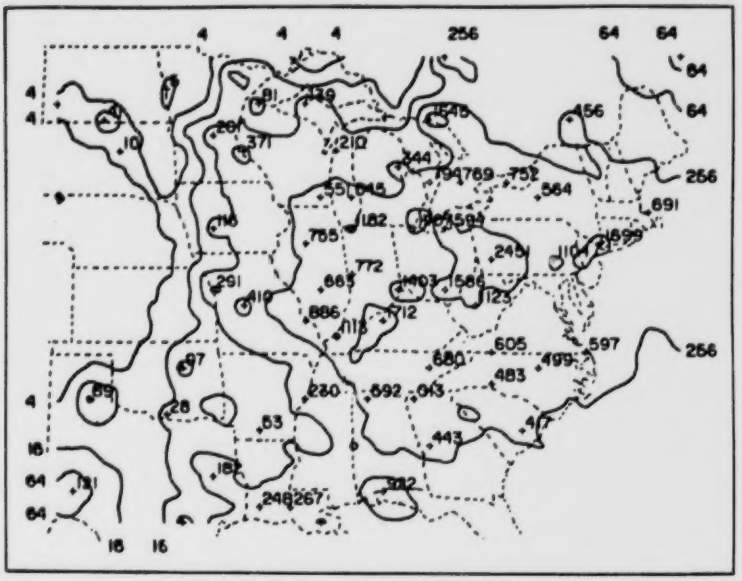
TABLE 7. COMPARISON OF ENAMAP-1A AND ENAMAP-1 BUDGETS FOR ILLINOIS, INDIANA, AND OHIO EMISSIONS (kton) FOR AUGUST 1977

Process	ENAMAP-1	ENAMAP-1A
SO_2		
Total SO_2 emitted	576.8	582.9
Wet deposition	-210.6	-164.7
Dry deposition	-286.4	-68.1
Flux*	-2.4	-7.5
Transformation ($SO_2 \rightarrow SO_4^=$)	-77.4	-342.3
$SO_4^=$		
Total $SO_4^=$ emitted and transformed	127.6	525.9
Wet deposition	-65.5	-305.7
Dry deposition	-36.6	-170.7
Flux*	-25.5	-49.5

*Flux is the amount of SO_2 or $SO_4^=$ that was transported out of the model domain by the wind.

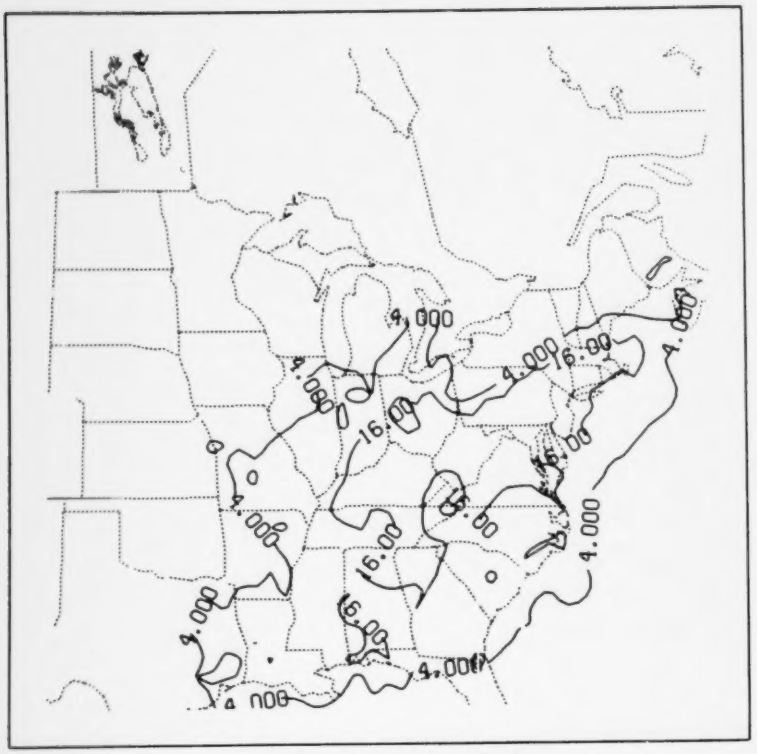


(a) CALCULATED BY ENAMAP-1A

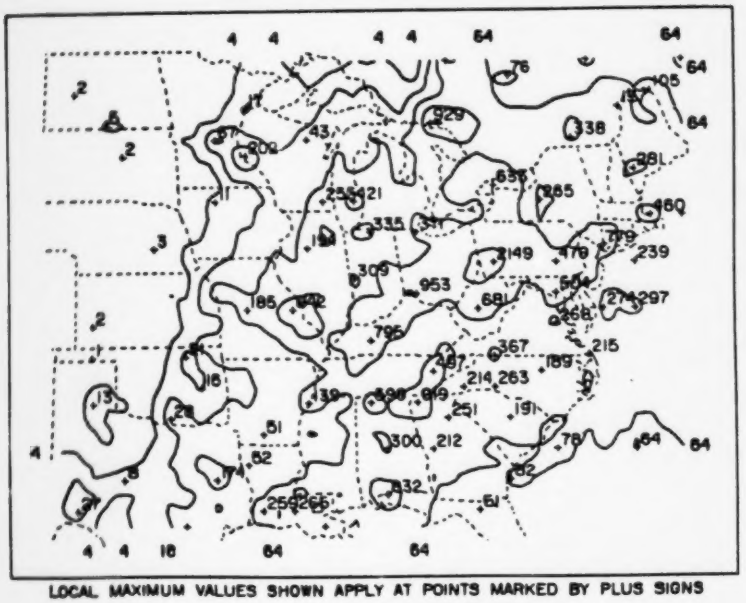


(b) CALCULATED BY ENAMAP-1

FIGURE 10 COMPARISON OF SO_2 DRY DEPOSITION (mg m^{-2}) CALCULATED BY ENAMAP-1A AND ENAMAP-1 FOR JANUARY 1977



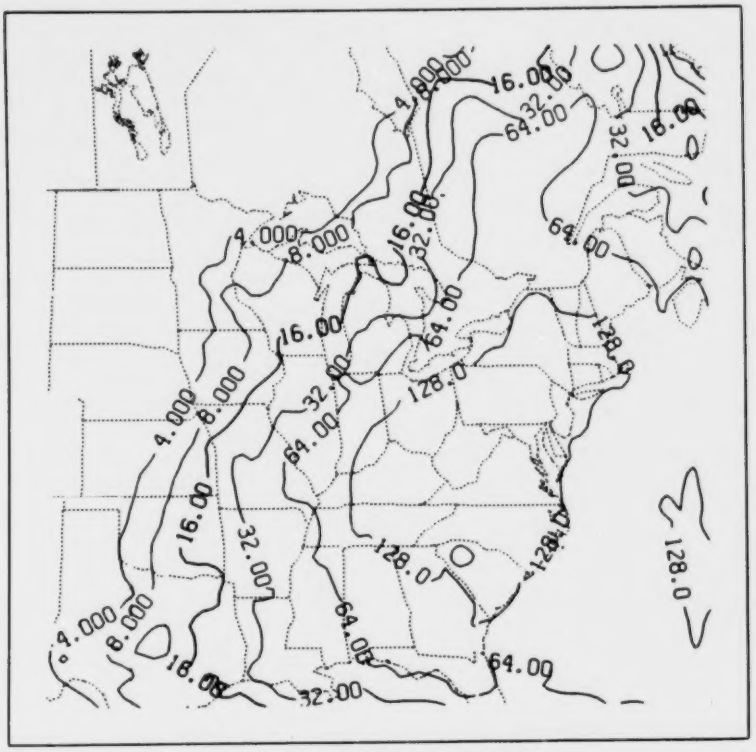
(a) CALCULATED BY ENAMAP-1A



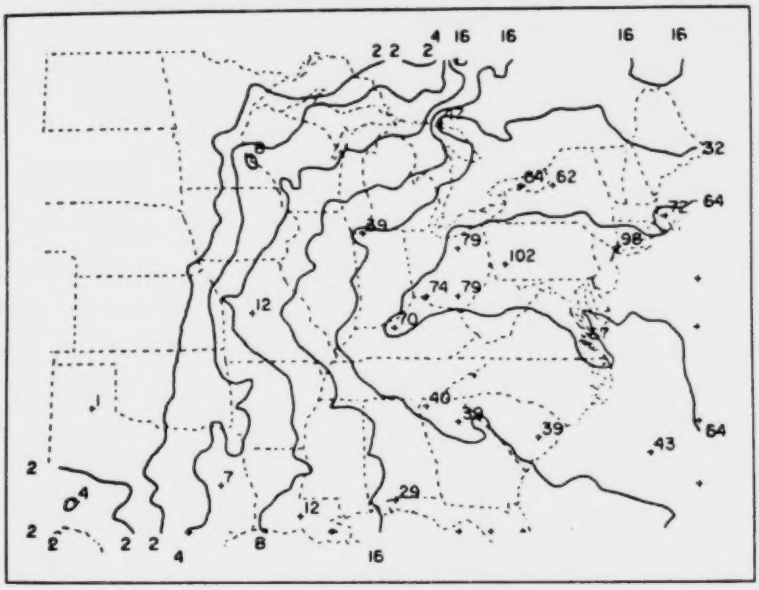
LOCAL MAXIMUM VALUES SHOWN APPLY AT POINTS MARKED BY PLUS SIGNS

(b) CALCULATED BY ENAMAP-1

FIGURE 11 COMPARISON OF SO_2 WET DEPOSITION (mg m^{-2}) CALCULATED BY ENAMAP-1A AND ENAMAP-1 FOR JANUARY 1977

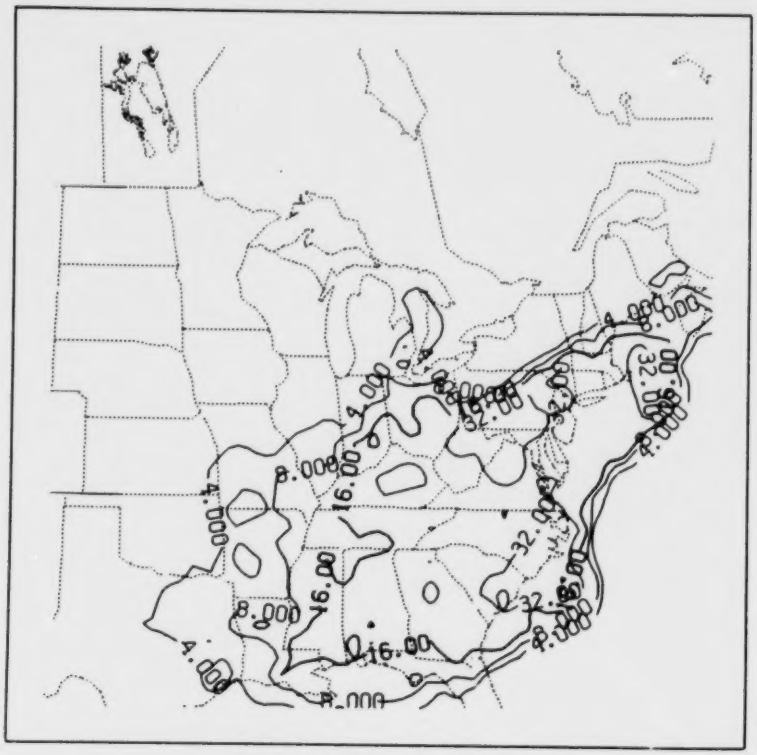


(a) CALCULATED BY ENAMAP-1A

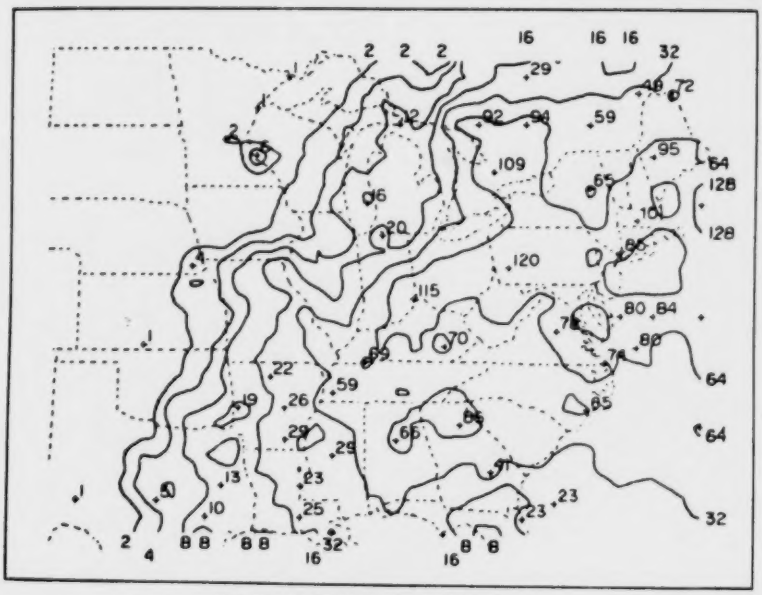


(b) CALCULATED BY ENAMAP-1

FIGURE 12 COMPARISON OF $SO_4^=$ DRY DEPOSITION (mg m^{-2}) CALCULATED BY ENAMAP-1A AND ENAMAP 1 FOR JANUARY 1977

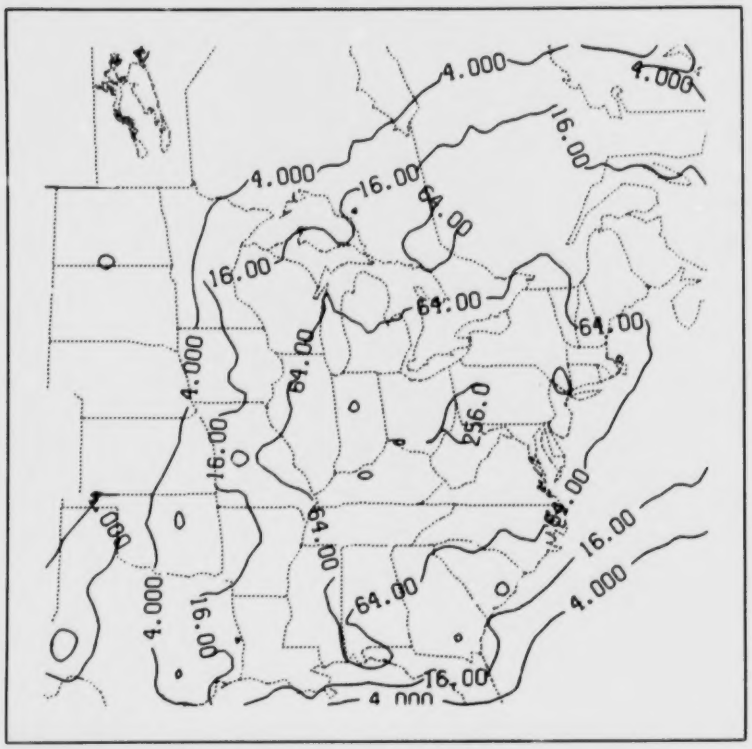


(a) CALCULATED BY ENAMAP-1A

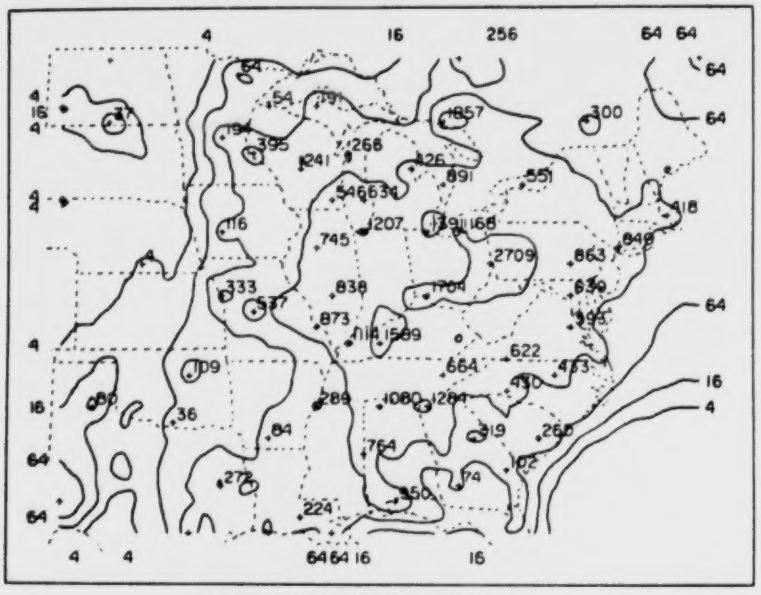


(b) CALCULATED BY ENAMAP-1

FIGURE 13 COMPARISON OF $SO_4^=$ WET DEPOSITION (mg m^{-2}) CALCULATED BY ENAMAP-1A AND ENAMAP-1 FOR JANUARY 1977

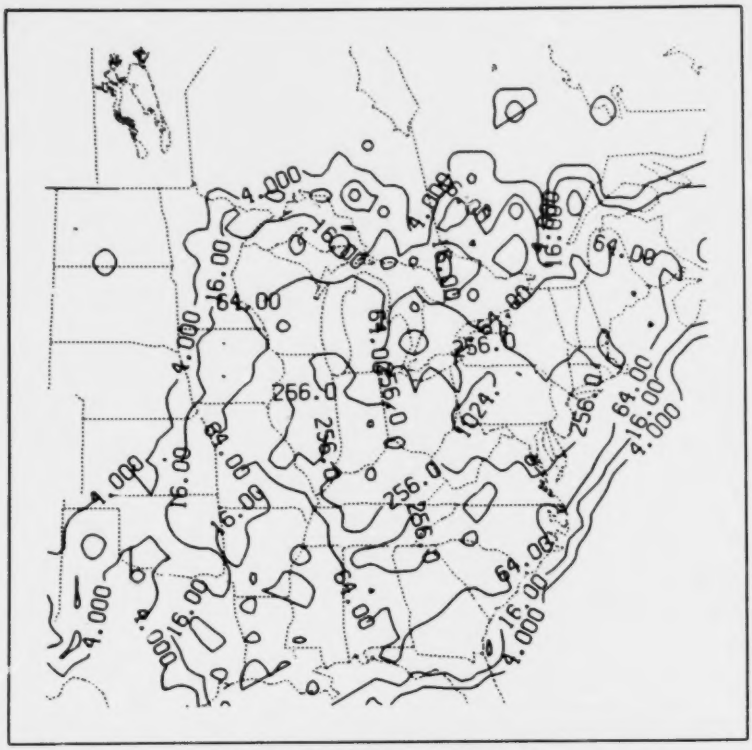


(a) CALCULATED BY ENAMAP-1A

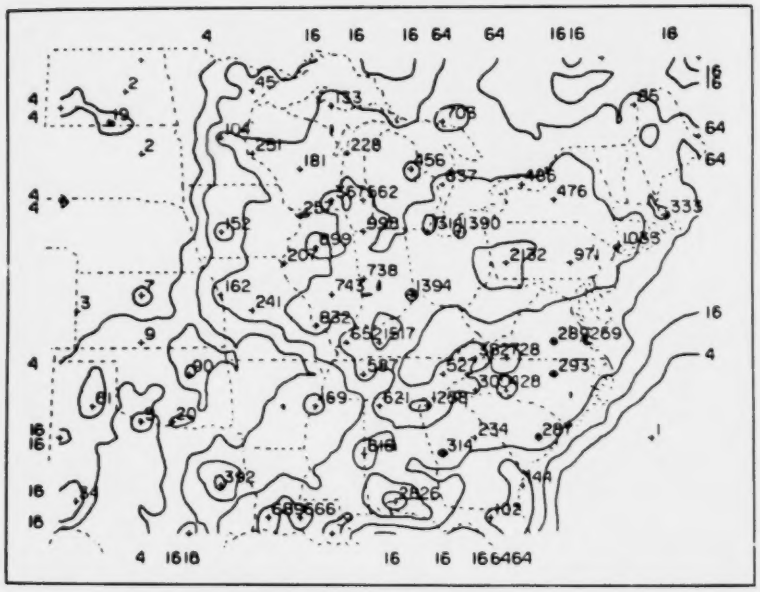


(b) CALCULATED BY ENAMAP-1

FIGURE 14 COMPARISON OF SO_2 DRY DEPOSITION (mg m^{-2}) CALCULATED BY ENAMAP-1A AND ENAMAP-1 FOR AUGUST 1977

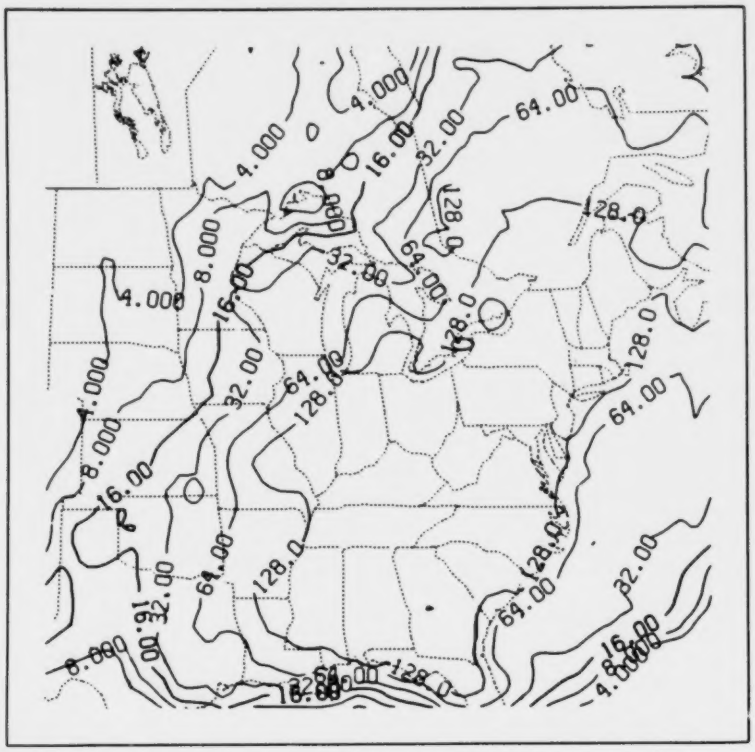


(a) CALCULATED BY ENAMAP-1A

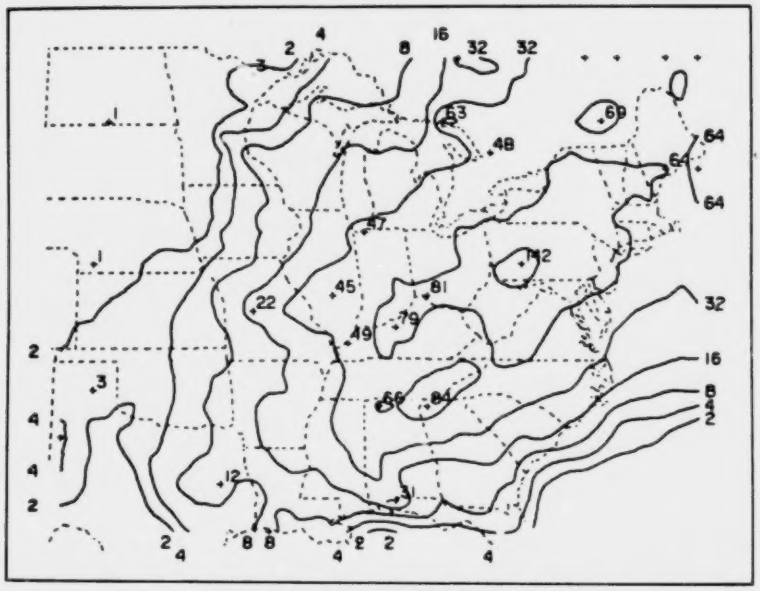


(b) CALCULATED BY ENAMAP-1

FIGURE 15 COMPARISON OF SO_2 WET DEPOSITION (mg m^{-2}) CALCULATED BY ENAMAP-1A AND ENAMAP-1 FOR AUGUST 1977

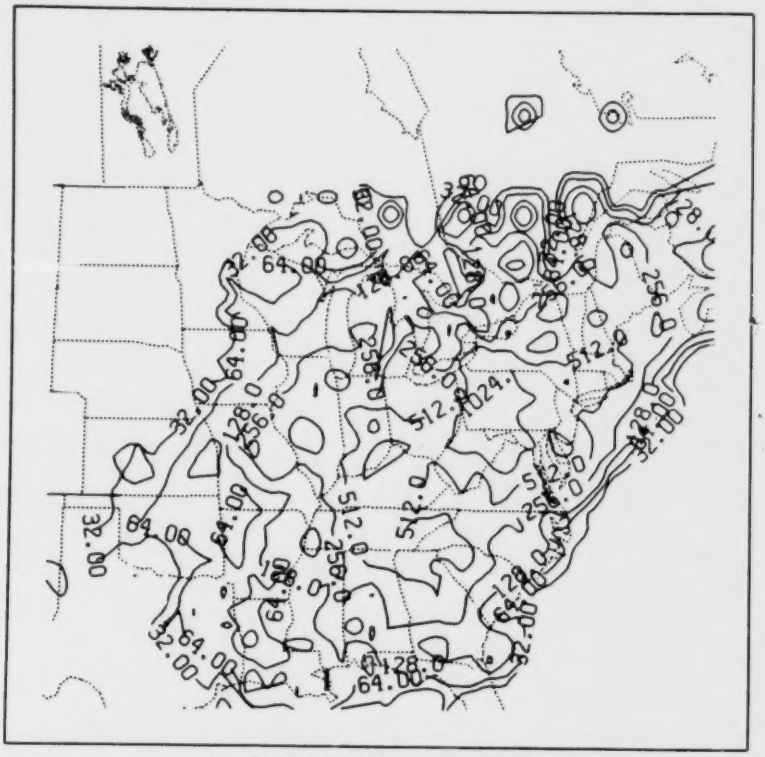


(a) CALCULATED BY ENAMAP-1A

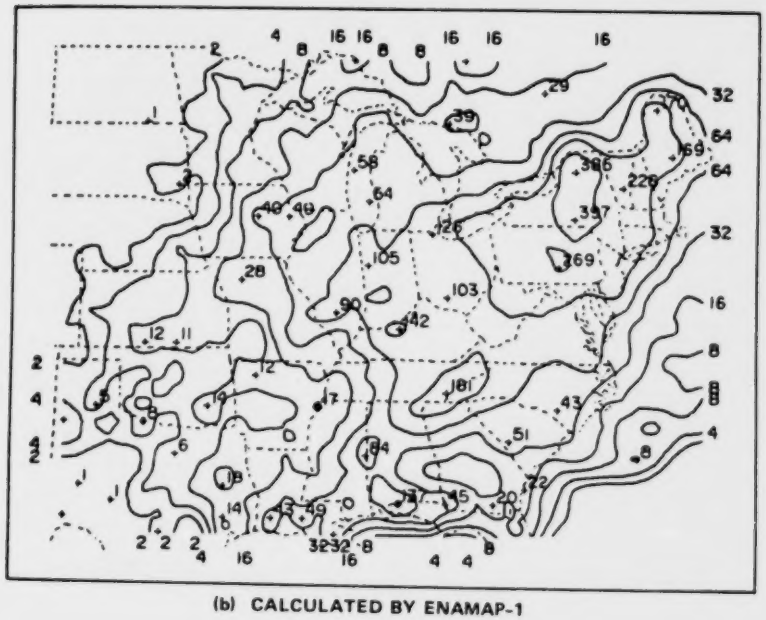


(b) CALCULATED BY ENAMAP-1

FIGURE 16 COMPARISON OF $SO_4^=$ DRY DEPOSITION (mg m^{-2}) CALCULATED BY ENAMAP-1A AND ENAMAP-1 FOR AUGUST 1977



(a) CALCULATED BY ENAMAP-1A



(b) CALCULATED BY ENAMAP-1

FIGURE 17 COMPARISON OF $SO_4^=$ WET DEPOSITION (mg m^{-2}) CALCULATED BY ENAMAP-1A AND ENAMAP-1 FOR AUGUST 1977

Interregional Exchanges

Tables 8 and 9 show the January and August sulfur* exchanges between the different states (or provinces) of Figure 2. The tables show dry and wet sulfur depositions (in kilotons) resulting from emissions from each of the 41 emitter regions. An example of how to interpret these tables follows: The values along the diagonal of the matrix represent the amount deposited within each emitter region from its own emissions; for example, 6.0 kton of the sulfur depositions within Alabama (Emitter Region 1) came from its own emissions. Similarly, Illinois receives from itself 6.9 kton of sulfur deposition. The values in each column (for a given emitter region) show the amount of deposition it received from each of the other emitter regions. For example, Indiana (Emitter Region 8) received 0.1 kton from Alabama, 0.0 kton from Mississippi, 4.1 kton from Illinois, and so forth.

Tables 10 and 11 show comparisons of interregional sulfur deposition results for January and August. The 13 regions are the same as those used previously in ENAMAP-1. The source-receptor tables for ENAMAP-1A were produced by summing emitter and receptor results from the 41 regions/provinces. For example, Region V-South is made up of the states of Illinois, Indiana, and Ohio. It can be seen from Table 10, by summing the sulfur depositions in all the regions, that the ENAMAP-1A total January deposition is much lower (about 40 percent of the ENAMAP-1 deposition). This is because of the overall lower deposition rates of SO_2 and $SO_4^=$; more SO_2 and $SO_4^=$ is transported out of the model domain. In August (Table 11) the total deposition from ENAMAP-1A is about 70 percent of that given by ENAMAP-1, and the relative proportions of SO_2 and $SO_4^=$ are reversed. Additional regional comparison tables for SO_2 and $SO_4^=$ are given in Appendices A and B.

*The amount of sulfur (S) is given by $S = SO_2/2 + SO_4^=/3$.

TABLE 8. CALCULATED INTERSTATE/PROVINCE EXCHANGES OF SULFUR DEPOSITIONS (kton)
FOR JANUARY 1977

EMITTER REGION	TOTAL	CONTRIBUTIONS TO S DEPOSITIONS WITHIN RECEPTOR REGIONS													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 ALABAMA	6.0	.1	0.	.1	2.2	4.2	.0	.1	0.	0.	.5	.7	0.	0.	0.
2 ARKANSAS	.1	.4	0.	.0	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0	0.
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	.9	0.	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.
5 FLORIDA	.2	.0	0.	.0	.6	.3	.0	0.	0.	0.	.0	.0	0.	0.	0.
6 GEORGIA	.7	.0	0.	.0	.6	4.6	.0	.0	0.	0.	.2	.0	0.	0.	0.
7 ILLINOIS	1.4	.4	0.	.4	.5	2.0	6.9	4.1	.3	.1	4.7	.0	.3	.8	0.
8 INDIANA	.2	.0	0.	.8	.1	.8	.9	8.1	.0	0.	6.0	0.	.4	.6	0.
9 IOWA	.1	.1	0.	.1	.1	.3	.7	.4	1.0	.1	.4	.0	.0	.2	.1
10 KANSAS	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
11 KENTUCKY	.3	.0	0.	.6	.2	1.5	.1	1.0	0.	0.	9.1	0.	.1	.0	0.
12 LOUISIANA	.5	.5	0.	0.	.3	.4	.0	.0	.0	.0	.0	2.4	0.	0.	0.
13 MAINE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.6	0.	0.
14 MICHIGAN	.0	.0	0.	.5	.0	.0	.1	.7	.0	0.	.2	0.	.4	4.1	.0
15 MINNESOTA	.1	.0	0.	.1	.1	.2	.6	.5	.8	.1	.3	.1	.1	.6	1.2
16 MISS.	.3	.1	0.	.0	.1	.3	.0	.0	0.	.0	.0	.4	.0	0.	0.
17 MISSOURI	1.1	1.5	0.	.1	.5	1.3	2.3	1.1	.4	.5	1.7	.5	.1	.2	.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.2	0.	0.
21 NEW JERSEY	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	.4	.0	0.
24 N CAROLINA	.0	0.	0.	.1	.1	.2	0.	0.	0.	0.	.0	0.	.0	0.	0.
25 N DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
26 OHIO	0.	0.	0.	1.9	.0	.0	.0	.2	0.	0.	.5	0.	.3	.1	0.
27 OKLAHOMA	.1	.2	.0	.0	.0	.1	.0	.0	.1	.2	.0	.1	.0	.0	.0
28 PENN.	0.	0.	0.	1.8	0.	0.	0.	.0	0.	0.	.0	0.	.3	.1	0.
29 RI/MA/CT	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	.1	0.	0.
30 S CAROLINA	.0	0.	0.	.0	.1	.6	0.	0.	0.	0.	.0	0.	0.	0.	0.
31 S DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	1.2	.2	0.	.2	.4	2.0	.1	.3	0.	0.	2.1	.1	.0	.0	0.
33 TEXAS	.3	.6	.0	.0	.1	.3	.1	.0	.1	.2	.0	.8	.0	.0	.0
34 VIRGINIA	0.	0.	0.	.4	.0	.0	0.	0.	0.	0.	.0	0.	.0	.0	0.
35 W VIRGINIA	0.	0.	0.	2.1	.0	.0	0.	.0	0.	0.	.1	0.	.2	.1	0.
36 WISCONSIN	.1	.0	0.	.2	.0	.1	.8	1.0	.2	.0	.3	.0	.2	1.7	.1
37 MANITOBA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.1	0.	0.
39 ONTARIO	.0	.0	0.	.1	.0	.0	.0	.1	.0	.0	.0	.0	.9	.8	.0
40 QUEBEC	0.	0.	0.	.0	0.	0.	0.	.0	0.	0.	.0	0.	1.2	.0	0.
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTONS)	12.9	4.4	.0	10.5	6.0	19.5	12.8	17.6	3.1	1.3	24.2	5.4	4.2	9.4	1.5

TABLE 8 (continued)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO S DEPOSITIONS WITHIN RECEPTOR REGIONS													
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1 ALABAMA	2.1	.0	0.	0.	0.	.0	0.	0.	1.2	0.	.2	.0	.0	.0	1.4
2 ARKANSAS	.2	.1	0.	.0	.0	.0	0.	.0	.0	0.	.0	.0	.0	.0	.0
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	0.	.0	.2	0.	.1	.1	0.	.0	0.	.2	.1	0.
5 FLORIDA	.0	.0	0.	0.	0.	.0	0.	0.	.1	0.	0.	0.	0.	0.	.1
6 GEORGIA	.1	.0	0.	0.	0.	.0	0.	0.	1.0	0.	.0	0.	.0	.0	1.3
7 ILLINOIS	.8	2.5	0.	.0	.2	.2	0.	.8	2.3	0.	3.2	.0	1.2	.2	1.4
8 INDIANA	.0	.3	0.	0.	.3	.3	0.	1.5	2.1	0.	4.2	0.	2.2	.4	.8
9 IOWA	.1	.4	0.	.0	.0	.0	0.	.1	.2	0.	.4	.0	.2	.0	.1
10 KANSAS	.1	.1	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 KENTUCKY	.0	.0	0.	0.	.1	.2	0.	.7	3.3	0.	2.8	0.	1.1	.2	1.0
12 LOUISIANA	1.0	.1	0.	0.	0.	0.	0.	0.	.0	0.	.0	.1	0.	.0	.1
13 MAINE	0.	0.	0.	0.	.3	.0	0.	.0	0.	0.	0.	0.	0.	.1	0.
14 MICHIGAN	.0	.0	0.	0.	.9	.6	0.	3.2	.2	0.	3.9	0.	2.9	.7	.0
15 MINNESOTA	.1	.2	0.	.0	.2	.1	0.	.3	.2	.0	.6	.0	.3	.1	.1
16 MISS.	1.0	.0	0.	0.	0.	0.	0.	0.	.0	0.	.0	.0	.0	.0	.1
17 MISSOURI	1.3	5.6	0.	.0	.1	.0	0.	.2	.9	0.	.6	.4	.3	.1	.8
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	.6	.0	0.	.1	0.	0.	0.	0.	.0	.7	0.
21 NEW JERSEY	0.	0.	0.	0.	.1	1.1	0.	.3	0.	0.	0.	0.	.2	.1	0.
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	0.	.8	1.1	0.	3.8	.0	0.	.0	0.	.5	1.5	0.
24 N CAROLINA	0.	0.	0.	0.	.0	.0	0.	.0	3.2	0.	.0	0.	.1	.0	1.1
25 N DAKOTA	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
26 OHIO	0.	0.	0.	0.	.3	.7	0.	2.8	1.2	0.	8.5	0.	5.4	.7	.0
27 OKLAHOMA	.2	.1	0.	.0	.0	.0	.0	.0	.0	0.	.0	.4	.0	.0	.0
28 PENN.	0.	0.	0.	0.	.4	1.6	0.	2.6	.2	0.	.4	0.	7.4	.8	0.
29 RI/MA/CT	0.	0.	0.	0.	.1	.0	0.	.1	0.	0.	0.	0.	.0	.7	0.
30 S CAROLINA	0.	0.	0.	0.	0.	.0	0.	.0	.6	0.	0.	0.	.0	.0	1.6
31 S DAKOTA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	.8	.1	0.	0.	.0	.1	0.	.0	2.0	0.	.3	.0	.1	.0	1.3
33 TEXAS	.5	.2	0.	.0	.0	.0	.1	.0	.1	0.	.0	.6	.0	.0	.1
34 VIRGINIA	0.	0.	0.	0.	.0	.2	0.	.1	2.1	0.	.0	0.	.2	.0	.1
35 W VIRGINIA	0.	0.	0.	0.	.3	.9	0.	1.9	1.3	0.	2.5	0.	4.7	.5	.1
36 WISCONSIN	.1	.1	0.	.0	.3	.1	0.	.9	.3	0.	1.3	.0	.6	.2	.2
37 MANITOBA	.0	.0	0.	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
38 N BRUNS	0.	0.	0.	0.	.0	0.	0.	.0	0.	0.	0.	0.	0.	.0	0.
39 ONTARIO	.0	.0	0.	.0	1.1	.3	0.	2.7	.0	.0	.3	.0	.8	.7	.0
40 QUEBEC	0.	0.	0.	0.	.9	.0	0.	.5	.0	0.	.0	0.	.0	.4	0.
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON S)	8.5	10.3	.0	.2	7.2	7.8	.1	22.8	22.6	.1	31.4	1.7	28.8	8.3	11.9

TABLE 8 (concluded)

EMITTER REGION	TOTAL CONTRIBUTIONS TO S DEPOSITIONS WITHIN RECEPTOR REGIONS 31	32	33	34	35	36	37	38	39	40	41
1 ALABAMA	0.	1.3	.0	.5	.2	0.	0.	.0	0.	0.	0.
2 ARKANSAS	0.	.1	.1	.0	.0	.0	0.	.0	.0	.0	0.
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	.4	.0	0.	0.	.0	.0	.0	.0
5 FLORIDA	0.	.0	0.	.0	0.	0.	0.	0.	0.	0.	0.
6 GEORGIA	0.	.5	0.	.4	.2	0.	0.	0.	0.	0.	0.
7 ILLINOIS	0.	3.4	.0	1.6	1.5	.2	0.	.2	2.1	1.4	.2
8 INDIANA	0.	1.3	0.	2.7	3.7	.0	0.	.2	2.3	1.5	.2
9 IOWA	.0	.3	.0	.2	.2	.3	0.	.0	.5	.4	.1
10 KANSAS	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0	.0
11 KENTUCKY	0.	2.1	0.	2.7	2.5	0.	0.	.2	.3	.1	.0
12 LOUISIANA	0.	.1	1.2	.0	.0	0.	0.	.0	0.	0.	0.
13 MAINE	0.	0.	0.	0.	0.	0.	0.	.4	.0	.4	.0
14 MICHIGAN	0.	.0	0.	.6	.5	.1	0.	.4	7.7	3.4	.4
15 MINNESOTA	.0	.1	.0	.1	.2	1.7	.0	.1	1.2	.9	.1
16 MISS.	0	.1	.1	.0	.0	0.	0.	.0	0.	0.	0.
17 MISSOURI	0.	2.2	.1	.5	.5	.1	0.	.1	.6	.1	.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	.2	.0	.4	.0
21 NEW JERSEY	0.	0.	0.	.0	0.	0.	0.	.1	.0	.1	.0
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	.0	.0	0.	0.	.3	.9	.9	.2
24 N CAROLINA	0.	.0	0.	.4	.1	0.	0.	.0	.0	0.	0.
25 N DAKOTA	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
26 OHIO	0.	.0	0.	2.4	4.8	0.	0.	.2	1.2	1.5	.1
27 OKLAHOMA	.0	.1	.3	.0	.0	.0	0.	.0	.0	.0	0.
28 PENN.	0.	0.	0.	.6	.9	0.	0.	.2	.7	.8	.1
29 RI/MA/CT	0.	0.	0.	0.	0.	0.	0.	.1	.0	.1	.0
30 S CAROLINA	0.	.0	0.	.2	.0	0.	0.	.0	0.	0.	0.
31 S DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	0.	4.3	.0	.9	.5	0.	0.	.1	.0	.0	.0
33 TEXAS	.0	.1	4.2	.0	.0	.0	0.	.0	.0	.0	0.
34 VIRGINIA	0.	.0	0.	2.7	.2	0.	0.	.1	.0	.0	.0
35 W VIRGINIA	0.	.0	0.	2.9	5.5	0.	0.	.2	.5	.7	.2
36 WISCONSIN	0.	.2	.0	.3	.3	2.5	0.	.2	2.6	2.0	.3
37 MANITOBA	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.0
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	.5	.0	.4	.0
39 ONTARIO	.0	.0	0.	.1	.1	.0	.0	.6	8.6	6.6	.6
40 QUEBEC	0.	0.	0.	.0	.0	0.	0.	1.0	1.3	8.7	.6
41 NFLD/LAB	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON S)	.2	16.3	6.2	20.4	21.8	5.1	.1	5.5	30.8	30.9	3.2

TABLE 9. CALCULATED INTERSTATE/PROVINCE EXCHANGES OF SULFUR DEPOSITIONS (kton)
FOR AUGUST 1977

EMITTER REGION	TOTAL	CONTRIBUTIONS TO S DEPOSITIONS WITHIN RECEPTOR REGIONS														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 ALABAMA	22.7	1.7	0.	.1	3.5	9.4	1.8	2.6	.1	.3	6.2	1.1	.2	.5	0.	
2 ARKANSAS	.0	.9	0.	.0	.0	.0	.2	.1	.0	.1	.1	.1	.0	.0	.0	
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4 DEL/MD/DC	.0	.0	0.	3.8	.0	.1	.0	0.	0.	0.	0.	.0	.0	.1	0.	.0
5 FLORIDA	1.4	.3	0.	.0	1.8	1.9	.1	.1	.0	.1	.3	.1	.0	.0	.0	
6 GEORGIA	2.2	.1	0.	.1	.4	14.6	.1	.2	.0	.0	1.5	.0	.2	.0	.0	
7 ILLINOIS	.8	1.8	0.	.9	.2	.6	27.6	13.0	2.6	.0	6.3	.4	.7	2.9	.0	
8 INDIANA	.8	.1	0.	1.9	.1	.8	2.2	19.3	.0	0.	8.9	.1	.9	3.6	0.	
9 IOWA	.0	.1	.0	.0	.0	.0	1.4	.4	3.6	.1	.1	.0	.1	.5	.5	
10 KANSAS	.0	.0	.0	.0	.0	.0	.1	.0	.3	.4	.0	.0	.0	.0	.0	
11 KENTUCKY	.8	.0	0.	1.6	.2	1.4	.1	5.6	.0	0.	23.4	.1	1.0	.2	0.	
12 LOUISIANA	.5	3.1	.0	.0	.6	.4	1.3	.4	.2	.5	.6	7.6	.0	.0	.0	
13 MAINE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.7	0.	0.	
14 MICHIGAN	.0	0.	0.	.3	.1	.4	.1	.3	.0	0.	.2	0.	2.6	8.3	.0	
15 MINNESOTA	.0	.2	.0	.0	.0	.0	.7	.2	.7	.0	.0	.0	.4	1.2	2.1	
16 MISS.	.7	.7	.0	.0	.3	.3	.3	.1	.1	.1	.5	.7	.0	.0	.0	
17 MISSOURI	.2	.8	0.	.7	.1	.2	10.4	3.2	3.1	1.9	1.3	.2	.1	.4	.1	
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
21 NEW JERSEY	.0	0.	0.	.1	.0	.1	0.	0.	0.	0.	0.	0.	1.4	0.	0.	
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.1	0.	0.	
23 NEW YORK	0.	0.	0.	.1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
24 N CAROLINA	.0	.0	0.	.4	.1	.7	.0	.0	.0	0.	.1	.0	.1	0.	0.	
25 N DAKOTA	.0	.0	.0	.0	0.	.0	0.	.0	.2	.0	.0	0.	.0	.0	.1	
26 OHIO	.0	.0	0.	3.8	.1	.4	.0	.2	0.	0.	1.4	.0	2.2	.1	0.	
27 OKLAHOMA	.0	.1	.0	.0	.0	.0	.2	1.	.4	.9	.0	.0	.0	.0	.1	
28 PENN.	.0	0.	0.	4.4	.1	.5	.0	.0	0.	0.	.1	0.	2.1	0.	0.	
29 RI/MA/CT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.1	0.	0.	
30 S CAROLINA	.1	.0	0.	.1	.1	1.8	.0	.0	0.	0.	.4	0.	.0	0.	0.	
31 S DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
32 TENNESSEE	.9	.7	0.	.3	.1	1.4	.5	1.9	.0	.0	7.2	.3	.2	.3	0.	
33 TEXAS	.0	1.1	.2	.0	.0	.0	.7	.1	.8	2.8	.0	.9	.0	.1	.2	
34 VIRGINIA	.0	.0	0.	2.8	.1	.4	.0	.0	0.	0.	.2	.0	.1	0.	0.	
35 W VIRGINIA	.0	0.	0.	4.6	.1	.6	.0	.0	0.	0.	.2	0.	1.4	0.	0.	
36 WISCONSIN	.2	.0	0.	.1	.0	.2	1.0	.7	.5	0.	.2	0.	.8	3.4	.1	
37 MANITOBA	.0	0.	0.	.0	.0	.0	.0	.0	.0	0.	.0	0.	.0	.1	.2	
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.2	0.	0.	
39 ONTARIO	.0	0.	0.	.2	.0	.0	.0	.0	.0	0.	0.	0.	2.9	1.1	.0	
40 QUEBEC	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.3	0.	0.	
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
TOTAL (KTON S)	31.6	11.7	.2	28.0	8.1	34.7	49.1	48.7	12.8	7.2	59.3	11.7	27.0	22.8	3.5	

TABLE 9 (continued)

EMITTER REGION	TOTAL CONTRIBUTIONS TO S DEPOSITIONS WITHIN RECEPTOR REGIONS														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1 ALABAMA	9.2	1.8	0.	.0	.0	.0	0.	1	2.4	0.	1.7	.6	.4	.0	.7
2 ARKANSAS	.1	.4	0.	.0	.0	.0	0.	.0	.0	0.	.0	.1	.0	.0	.0
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	.0	.0	0.	0.	.1	.7	0.	.4	.4	0.	.0	0.	1.3	.3	.1
5 FLORIDA	.4	.1	0.	.0	.0	.0	0.	.0	.2	0.	.1	.1	.0	.0	.4
6 GEORGIA	.2	.1	0.	.0	.0	.0	0.	.1	.8	0.	1.1	.0	.2	.0	3.1
7 ILLINOIS	1.4	.0	0.	0.	.4	.3	0.	2.4	.2	0.	6.7	.2	3.6	.4	.3
8 INDIANA	.7	.1	0.	0.	.6	.4	0.	3.4	.7	0.	15.9	0.	4.6	.6	.2
9 IOWA	.1	.4	0.	.1	.1	.0	0.	.3	.0	0.	.3	.2	.3	.1	.0
10 KANSAS	.0	.3	0.	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
11 KENTUCKY	1.0	.0	0.	0.	.4	.3	0.	1.4	1.4	0.	13.7	0.	3.8	.4	.3
12 LOUISIANA	2.4	1.7	0.	.0	.0	.0	.0	.0	.0	0.	.1	.4	.0	.0	.1
13 MAINE	0.	0.	0.	0.	.3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 MICHIGAN	0.	.0	0.	0.	1.4	.3	0.	6.4	.4	0.	5.7	0.	.4	1.0	.2
15 MINNESOTA	.0	.1	0.	.0	.2	.0	0.	.4	.0	.0	.3	.1	.2	.1	.0
16 MISS.	2.4	.4	0.	.0	.0	.0	0.	.0	.0	0.	.0	.1	.0	.0	.0
17 MISSOURI	.3	13.2	0.	.0	.1	.1	0.	.4	.1	.0	1.9	.9	1.0	.1	.1
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	1.7	.0	0.	.0	0.	0.	0.	0.	0.	1.0	0.
21 NEW JERSEY	0.	0.	0.	0.	.2	3.0	0.	.7	.2	0.	0.	0.	.3	.7	.1
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	0.	2.4	1.4	0.	7.1	.1	0.	0.	0.	.4	.4	.0
24 N CAROLINA	.0	.0	0.	0.	.1	.1	0.	.2	10.4	0.	.0	0.	.4	.1	1.4
25 N DAKOTA	.0	.0	.0	.1	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
26 OHIO	.0	.0	0.	0.	2.1	.8	0.	8.1	1.4	0.	15.5	0.	17.5	1.5	.5
27 OKLAHOMA	.0	.7	0.	.1	.0	.0	.0	.0	.0	.0	.0	1.2	.0	.0	.0
28 PENN.	.0	.0	0.	0.	2.4	3.1	0.	8.2	1.0	0.	.3	0.	27.2	2.4	.2
29 RI/MA/CT	0.	0.	0.	0.	.1	.0	0.	.1	0.	0.	0.	0.	0.	1.3	0.
30 S CAROLINA	.0	.0	0.	0.	.0	.1	0.	.1	2.9	0.	.1	.0	.1	.1	.7
31 S DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	1.5	.5	0.	.0	.1	.1	0.	.3	2.4	0.	1.5	.0	.4	.0	.2
33 TEXAS	.2	1.6	0.	.8	.0	.0	.0	.0	.0	.0	.1	2.2	.1	.0	.0
34 VIRGINIA	.0	.0	0.	0.	.2	.4	0.	.3	3.3	0.	.0	0.	1.2	.4	.4
35 W VIRGINIA	.0	.0	0.	0.	1.8	1.1	0.	5.5	1.4	0.	3.7	0.	19.1	1.6	.4
36 WISCONSIN	.1	.0	0.	0.	.4	.1	0.	1.3	.2	0.	1.7	.0	1.3	.3	.1
37 MANITOBA	.0	.0	0.	.0	.0	.0	0.	.0	.0	.0	.0	0.	.0	.0	.0
38 N BRUNS	0.	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 ONTARIO	.0	0.	0.	0.	2.3	.2	0.	.4	.0	.0	.1	0.	1.3	.4	.0
40 QUEBEC	0.	0.	0.	0.	1.1	.0	0.	.5	0.	0.	0.	0.	.0	.1	0.
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON S)	20.2	25.9	.0	1.3	18.9	12.9	.5	52.6	34.5	.3	70.5	4.4	91.0	18.1	14.4

TABLE 9 (concluded)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO S DEPOSITIONS WITHIN RECEPTOR REGIONS									
	31	32	33	34	35	36	37	38	39	40	41
1 ALABAMA	0.	14.6	.6	1.4	1.3	.0	0.	.4	1.2	.9	0.
2 ARKANSAS	0.	.1	.1	.0	.0	.0	0.	.0	.0	.0	.0
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	.0	.0	1.4	.1	0.	0.	.1	.0	.0	.0
5 FLORIDA	0.	.6	.1	.1	.1	.0	0.	.0	.0	.0	0.
6 GEORGIA	0.	4.7	.0	1.3	1.1	.0	0.	.1	.3	.1	0.
7 ILLINOIS	0.	2.1	.2	1.0	2.1	2.4	0.	.5	2.8	2.3	.1
8 INDIANA	0.	2.4	.0	2.2	5.9	.2	0.	.7	5.2	2.6	.0
9 IOWA	.0	.0	.1	.0	.1	1.6	.0	.1	.8	.2	.0
10 KANSAS	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
11 KENTUCKY	0.	4.8	.0	4.0	7.6	.0	0.	.4	1.7	1.4	.0
12 LOUISIANA	.0	.3	3.5	.1	.1	.1	0.	.0	.2	.2	.0
13 MAINE	0.	0.	0.	0.	0.	0.	0.	1.2	0.	.1	.0
14 MICHIGAN	0.	.0	0.	1.0	2.8	.2	0.	1.8	17.8	4.9	.5
15 MINNESOTA	.0	.0	.0	.1	.1	3.7	.0	.2	2.1	.9	.1
16 MISS.	0.	.6	.2	.0	.1	.0	.0	.0	.1	.1	.0
17 MISSOURI	.0	.3	.6	.4	.8	1.0	.0	.1	.8	.5	.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	.5	0.	.1	.0
21 NEW JERSEY	0.	.0	0.	.0	.0	0.	0.	.2	0.	.0	.0
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	.1	.0	0.	0.	1.4	1.1	1.1	..
24 N CAROLINA	0.	.4	0.	3.9	.9	0.	0.	.0	.0	.0	0.
25 N DAKOTA	.4	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
26 OHIO	0.	.2	0.	3.8	17.1	0.	0.	1.5	3.6	1.4	.0
27 OKLAHOMA	.0	.0	.1	.0	.0	.2	0.	.0	.0	.0	.0
28 PENN.	0.	.0	0.	3.0	4.0	0.	0.	1.3	.9	.7	.0
29 RI/MA/CT	0.	0.	0.	0.	0.	0.	0.	.3	0.	.0	.0
30 S CAROLINA	0.	.3	.0	.6	.2	0.	0.	.0	.0	.0	0.
31 S DAKOTA	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	0.	10.7	.1	2.7	7.2	.0	0.	.2	.4	.8	.0
33 TEXAS	.1	.0	10.0	.0	.0	.3	.0	.0	.2	.2	.0
34 VIRGINIA	0.	.1	.0	11.1	1.7	0.	0.	.1	.0	.0	.0
35 W VIRGINIA	0.	.1	0.	5.2	20.7	0.	0.	1.4	.4	.1	.0
36 WISCONSIN	0.	.2	.0	.2	.5	4.3	0.	.4	4.1	2.3	.2
37 MANITOBA	.0	.0	0.	.0	.0	.1	.1	.0	.3	.1	.0
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	1.8	0.	.4	.1
39 ONTARIO	0.	.0	0.	.3	.2	.0	.0	2.3	18.6	13.4	.9
40 QUEBEC	0.	0.	0.	0.	0.	0.	0.	2.1	1.3	17.8	1.2
41 NFLD/LRD	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON S)	.7	92.8	15.5	48.1	69.7	16.4	.1	19.2	65.2	58.9	7.5

TABLE 10. COMPARISON OF INTERREGIONAL EXCHANGES OF SULFUR DEPOSITIONS (kton) CALCULATED BY ENAMAP-1A AND ENAMAP-1 FOR JANUARY 1977

(a) ENAMAP-1A

EMITTER REGION	TOTAL CONTRIBUTIONS TO S DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.3	.1	.1	.2	.0	.1	.1	.1	.1	.0	.0	.0	.0
2 V-NORTH	.0	13.4	11.6	1.5	.0	.2	9.5	.7	2.1	6.6	5.1	3.5	7.9
3 S. ONTARIO	.0	1.4	8.6	.0	0.	.0	.4	.0	.0	1.0	3.0	2.8	7.1
4 VII	.0	1.1	1.0	8.5	.0	3.0	5.7	5.0	6.7	2.1	.4	.4	.6
5 VIII-SOUTH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 VI-EAST	.0	.1	.0	1.3	.0	12.1	.3	4.4	.8	.2	.0	.0	.0
7 V-SOUTH	0.	2.4	5.5	3.2	0.	.4	38.0	5.7	23.8	28.5	6.4	3.0	4.9
8 IV-SOUTH	0.	.0	0.	.1	0.	1.5	.3	23.3	7.7	1.4	.0	.0	0.
9 IV-NORTH	0.	.2	.3	.1	0.	.3	4.6	7.5	31.7	9.9	1.1	.5	.1
10 III	0.	.8	1.3	0.	0.	0.	3.0	.1	4.0	30.8	7.6	2.8	1.8
11 II	0.	.4	1.0	0.	0.	0.	.0	0.	.0	.8	6.2	2.8	1.2
12 I	0.	.6	.0	0.	0.	0.	0.	0.	0.	.0	.3	3.4	1.2
13 S. QUEBEC	0.	1.0	1.3	0.	0.	0.	.0	0.	.0	.0	.5	2.5	9.3
TOTAL (KTON S)	.3	21.6	30.8	14.9	.0	17.7	61.9	46.8	77.0	81.4	30.6	21.7	34.1

(b) ENAMAP-1

EMITTER REGION	TOTAL CONTRIBUTIONS TO S DEPOSITIONS WITHIN RECEPTOR REGIONS (kilotons) 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.8	.1	.0	.2	.0	.1	.0	.0	.0	.0	.0	.0	.0
2 V-NORTH	.0	46.9	26.4	3.8	0.0	.1	21.5	.4	1.6	9.8	6.4	2.4	2.0
3 S. ONTARIO	.0	3.3	71.6	0.0	0.0	0.0	3.0	0.0	.1	6.8	12.5	5.7	8.0
4 VII	.0	1.4	.5	29.5	.0	3.5	10.8	4.0	7.6	1.5	.3	.3	.2
5 VIII-SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 VI-EAST	.0	.0	.0	1.1	.0	29.9	.1	3.8	.3	.0	.0	.0	.0
7 V-SOUTH	0.0	5.2	8.1	8.6	0.0	.3	122.0	5.8	42.4	54.7	8.1	3.6	2.3
8 IV-SOUTH	0.0	0.0	0.0	.0	0.0	2.2	.3	72.2	17.3	.8	.0	.0	0.0
9 IV-NORTH	0.0	.0	.4	.2	0.0	.7	12.8	11.9	80.0	14.1	1.1	.7	.3
10 III	0.0	.1	1.8	0.0	0.0	0.0	12.2	.0	8.3	106.1	13.2	5.4	1.0
11 II	0.0	.0	3.8	0.0	0.0	0.0	.0	0.0	0.0	1.8	15.6	5.3	.8
12 I	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	.3	8.4	18.6	2.0
13 S. QUEBEC	0.0	.2	7.2	0.0	0.0	0.0	.0	0.0	0.0	.0	.6	8.0	22.9
TOTAL (KTON S)	.8	57.3	120.0	43.4	.0	36.8	182.9	98.2	157.5	196.0	66.1	48.0	39.4

TABLE 11. COMPARISON OF INTERREGIONAL EXCHANGES OF SULFUR DEPOSITIONS (kton) CALCULATED BY ENAMAP-1A AND ENAMAP-1 FOR AUGUST 1977

(a) ENAMAP-1A

EMITTER REGION	TOTAL CONTRIBUTIONS TO S DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.7	.2	.1	.4	.0	.0	.1	.0	.0	.0	.0	.0	.0
2 V-NORTH	.0	30.2	24.2	1.4	.0	.3	10.8	1.0	1.7	11.7	8.4	7.3	11.4
3 S. ONTARIO	.0	3.4	18.6	.0	0.	0.	.1	.1	.1	2.0	4.7	5.9	14.5
4 VII	.1	4.4	1.6	23.7	.0	3.1	17.9	1.0	1.9	3.3	.8	.6	.7
5 VIII-SOUTH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 VI-EAST	.2	1.2	.4	11.1	.2	32.0	3.4	4.4	1.3	.4	1	.0	.4
7 V-SOUTH	0.	12.0	12.6	6.7	0.	2.7	100.2	6.0	24.6	65.5	15.7	9.5	6.5
8 IV-SOUTH	0.	1.0	1.7	3.4	.0	6.2	8.2	71.8	40.7	6.2	.3	.6	1.1
9 IV-NORTH	0.	1.2	2.2	.6	0.	1.2	23.6	10.3	72.8	29.7	2.7	2.6	2.3
10 III	0.	2.9	1.3	.0	0.	.0	4.0	2.1	7.9	112.9	20.0	13.0	.9
11 II	0.	1.5	1.1	0.	0.	0.	0.	.1	.4	1.2	12.2	10.5	1.2
12 I	0.	2.1	0.	0.	0.	0.	0.	0.	0.	0.	.1	9.6	.2
13 S. QUEBEC	0.	2.1	1.3	0.	0.	0.	0.	0.	0.	.0	.5	4.5	19.1
TOTAL (KTON S)	1.0	62.1	65.2	47.2	.2	45.7	168.3	96.6	151.2	232.8	65.5	64.0	58.4

(b) ENAMAP-1

EMITTER REGION	TOTAL CONTRIBUTIONS TO S DEPOSITIONS WITHIN RECEPTOR REGIONS (kilotons) 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.9	.0	.0	.1	.0	.0	.0	0.0	.0	.0	.0	.0	.0
2 V-NORTH	.0	59.9	29.5	1.6	0.0	.1	14.8	.2	.6	4.1	4.5	1.4	3.5
3 S. ONTARIO	.0	2.9	66.5	0.0	0.0	0.0	2.1	.0	.1	3.7	6.4	3.8	12.4
4 VII	.0	4.3	1.3	33.7	.0	1.1	15.6	.2	.7	.3	.3	.2	.2
5 VIII-SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 VI-EAST	.1	.3	.1	4.5	.1	42.3	.9	2.4	.3	.1	.0	.0	.0
7 V-SOUTH	0.0	15.7	15.2	9.7	0.0	1.2	147.4	1.8	26.2	44.4	12.3	3.9	3.2
8 IV-SOUTH	0.0	.2	.9	.8	0.0	3.1	2.6	103.1	36.5	3.6	.3	.1	.5
9 IV-NORTH	0.0	.4	2.9	.4	0.0	1.3	22.9	4.9	85.2	19.7	2.7	.8	1.0
10 III	0.0	0.0	1.8	0.0	0.0	0.0	11.5	.2	5.9	134.9	23.9	7.9	1.1
11 II	0.0	0.0	4.1	0.0	0.0	0.0	0.0	.0	.1	1.7	19.6	7.6	1.4
12 I	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.0	.0	5.2	18.6	1.2
13 S. QUEBEC	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	1.9	16.3
TOTAL (KTON S)	1.0	83.8	126.9	50.9	.1	49.1	217.8	112.8	158.6	212.3	75.6	44.1	40.7

SECTION 5

IMPACT OF SULFUR EMISSIONS ON ESPECIALLY SENSITIVE RECEPTOR AREAS

Twelve especially sensitive regions in eastern North America were chosen by EPA for more specific receptor analysis. The 12 regions (shown in Figure 2) include state parks, recreational areas, and other areas in which it is important to assess the current and future impact of sulfur pollution. Each receptor region is defined as a 70-by-70-km grid cell. Tables 12 and 13 show the contributions to sulfur depositions within the receptor areas for the months of January and August, respectively. The amount of sulfur that is contributed to a special area from an emitter region is dependent primarily on the amount of sulfur emitted, the prevailing wind direction, and the distance between the emitter region and the receptor area.

Appendix C gives the interregional exchange tables for SO_2 and $SO_4^=$ wet and dry depositions for the sensitive areas. The computed wet deposition in Canada is very low in January because snowfall data are not included in the hourly precipitation reports.

TABLE 12. CALCULATED INTERSTATE/PROVINCE SENSITIVE RECEPTOR AREA EXCHANGES OF SULFUR DEPOSITIONS (kton) FOR JANUARY 1977

EMITTOR STATE	TOTAL CONTRIBUTIONS TO S DEPOSITIONS WITHIN SPECIAL RECEPTON AREAS											
	N NEW HAMPSHIRE	ADIRON-DACK NY	S CENT. PENN	APPALAC-HIAN NC	N CENT. FLORIDA	N CENT. ARKANSAS	S LAKE MICHIGAN	ALGON-QUIN ONT	VEREN-DRYE QUE	FINGER LAKES NY	CHARLOT-TESVILLE	CHAMPAIGN ILLINOIS
ALABAMA	0.	0.	1.90	89.71	70.75	.70	0.	0.	0.	0.	17.97	0.
ARKANSAS	.06	.01	.41	2.40	1.96	8.96	.02	.00	0.	.10	.89	.56
COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEL/MD/DC	2.02	2.67	16.72	0.	0.	0.	0.	0.	0.	1.30	11.66	0.
FLORIDA	0.	0.	0.	3.29	40.39	0.	0.	0.	0.	0.	.23	0.
GEORGIA	0.	0.	.76	63.05	45.00	0.	0.	0.	0.	0.	10.29	0.
ILLINOIS	20.15	10.36	56.15	102.65	35.57	22.41	52.89	33.50	15.50	37.40	78.37	251.77
INDIANA	22.90	35.93	152.34	47.48	5.88	.02	6.25	30.96	2.95	67.68	150.76	72.37
IOWA	3.21	2.85	8.98	8.96	4.13	2.59	11.19	3.30	4.88	5.31	9.40	23.56
KANSAS	.24	.06	.20	1.40	.32	2.42	.81	.19	.00	.22	.41	.59
KENTUCKY	5.43	6.31	59.28	75.67	27.19	0.	0.	0.	0.	28.99	120.87	1.27
LOUISIANA	0.	0.	0.	1.27	20.27	12.30	0.	0.	0.	0.	.01	1.85
MAINE	19.02	2.88	0.	0.	0.	0.	0.	0.	.02	0.	0.	0.
MICHIGAN	57.79	98.44	78.13	.28	.01	0.	302.03	46.53	37.17	166.45	49.62	7.55
MINNESOTA	11.49	7.91	16.12	8.53	3.81	.59	17.90	11.67	9.54	9.91	6.36	13.16
MISS.	0.	0.	.02	1.82	6.96	2.94	0.	0.	0.	0.	.21	.01
MISSOURI	8.72	1.94	19.94	66.14	21.30	75.63	6.06	.82	.66	5.00	20.00	69.09
MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEBRASKA	.11	.04	.12	.47	.22	.88	.34	.03	.11	.07	.13	.39
NH/VT	38.92	5.86	0.	0.	0.	0.	0.	0.	.13	0.	0.	0.
NEW JERSEY	7.99	2.62	1.41	0.	0.	0.	0.	.14	0.	2.56	0.	0.
NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW YORK	43.56	62.02	2.32	0.	0.	0.	0.	3.94	.39	118.39	0.	0.
N CAROLINA	.26	.13	5.73	30.32	4.36	0.	0.	0.	0.	.19	27.52	0.
N DAKOTA	.59	.31	.58	.44	.26	1.22	.40	.23	.36	.43	.41	1.26
OHIO	24.66	55.10	291.92	0.	.03	0.	0.	.16	0.	118.39	171.04	.37
OKLAHOMA	.21	.04	.55	1.89	.45	8.05	1.15	.00	0.	.59	1.71	.56
PENN	23.42	50.28	351.20	0.	0.	0.	0.	.92	0.	65.43	53.00	0.
RI/MA/CT	3.60	6.18	0.	0.	0.	0.	0.	.03	0.	1.15	0.	0.
S CAROLINA	0.	0.	1.28	10.35	10.96	0.	0.	0.	0.	0.	11.91	0.
S DAKOTA	.10	.04	.06	.24	.05	.17	.05	.05	.04	.04	.07	.13
TENNESSEE	.05	.02	24.58	147.20	65.38	1.80	0.	0.	0.	.17	35.31	.05
TEXAS	.19	.03	1.36	3.69	1.55	17.76	1.33	.42	0.	.20	.49	3.39
VIRGINIA	2.34	.89	13.60	0.	2.16	0.	0.	0.	0.	.97	97.12	0.
W VIRGINIA	26.35	18.56	275.39	0.	.31	0.	0.	0.	0.	93.70	242.13	0.
WISCONSIN	21.69	25.60	26.69	6.57	2.31	.56	123.96	28.13	19.92	35.66	23.18	29.88
MANITOBA	.67	.47	.55	.09	.08	.15	1.08	.39	.62	.56	.25	.53
N BRUNS	1.02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ONTARIO	79.76	99.08	21.65	.08	.03	.01	5.51	108.52	71.48	115.68	6.68	.86
QUEBEC	71.39	33.67	.05	0.	0.	0.	.00	7.56	82.49	6.63	.00	0.
NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO4)	497.8	538.1	1425.0	671.9	351.2	159.1	572.5	286.5	264.7	831.2	1174.0	676.2

TABLE 13. CALCULATED INTERSTATE/PROVINCE SENSITIVE RECEPTOR AREA EXCHANGES OF SULFUR DEPOSITIONS (kton) FOR AUGUST 1977

EMITTOR STATE	TOTAL CONTRIBUTIONS TO					S DEPOSITIONS WITHIN SPECIAL RECEPTON AREAS						
	N NEW HAMPSHIRE	ADIRON-DACK NY	S CENT. PENN	APPALAC-HIAN NC	N CENT. FLORIDA	N CENT. ARKANSAS	S LAKE MICHIGAN	ALGON-QUIN ONT	VEREN-DRYE QUE	FINGER LAKES NY	CHARLOT-TESVILLE	CHAMPAIGN ILLINOIS
ALABAMA	2.41	1.19	17.98	476.12	87.89	42.66	.03	12.03	5.58	2.22	15.10	90.89
ARKANSAS	.10	.09	.75	.20	1.13	30.90	1.33	.09	.27	.14	.74	7.70
COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEL/MD/DC	6.31	.87	55.99	1.16	9.45	.00	0.	0.	0.	.09	62.95	0.
FLORIDA	.14	.01	.77	21.55	160.90	3.53	.01	.12	.00	.14	.69	.51
GEORGIA	.59	3.99	31.19	1149.50	53.87	2.35	.00	.33	0.	1.83	38.37	1.93
ILLINOIS	34.29	87.45	164.37	17.65	19.03	56.58	270.10	15.53	33.17	130.73	41.23	1158.77
INDIANA	43.23	123.57	422.90	72.37	13.85	.07	233.23	37.30	23.01	177.71	87.18	65.04
IOWA	6.68	10.28	17.53	.76	.49	2.81	37.02	4.66	2.39	13.55	.65	26.55
KANSAS	.02	.06	1.75	.01	.02	1.36	.67	.14	.03	.12	.01	4.61
KENTUCKY	25.29	23.82	330.27	174.86	19.63	.00	.19	10.79	2.22	51.46	187.75	7.03
LOUISIANA	.09	3.60	9.27	.79	54.80	96.72	17.44	1.24	6.87	.82	14.01	16.75
MAINE	16.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MICHIGAN	199.19	329.34	190.30	11.57	15.00	0.	432.19	92.84	48.43	278.76	43.83	8.45
MINNESOTA	28.96	21.08	4.83	1.14	.21	3.48	37.81	6.62	17.85	12.80	7.14	7.72
MISS.	.07	.02	.49	1.11	21.90	26.18	2.64	.77	6.90	1.08	6.75	11.41
MISSOURI	8.87	6.44	80.48	1.95	11.83	42.65	27.01	.28	1.78	14.87	7.34	322.56
MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEBRASKA	.07	.69	.67	.00	0.	.29	1.27	.05	.01	.16	0.	.79
NH/VT	219.59	1.01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW JERSEY	15.96	1.76	0.	.86	5.87	0.	0.	0.	0.	0.	.04	0.
NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW YORK	195.18	244.43	2.13	0.	0.	0.	0.	0.	0.	244.81	3.91	0.
N CAROLINA	10.12	11.47	44.10	201.93	14.97	.01	0.	0.	0.	1.10	202.95	.06
N DAKOTA	.07	.03	.18	.00	0.	.00	.16	.14	.12	.10	.01	.83
OHIO	147.87	372.38	992.23	50.57	16.26	.00	.00	11.89	4.61	316.76	179.09	.05
OKLAHOMA	.00	.05	.50	.06	.47	10.29	.19	.01	.02	.16	.02	6.08
PENN.	282.50	264.62	1558.23	6.33	20.92	0.	0.	.05	0.	1[illegible]2.37	154.06	0.
RI/MA/CT	1.22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
S CAROLINA	2.22	7.05	2.30	63.66	12.75	.03	0.	0.	0.	7.59	27.88	.01
S DAKOTA	.05	.01	.03	.00	0.	.00	.31	.02	.02	.00	0.	.09
TENNESSEE	11.80	3.17	34.98	331.23	10.46	7.05	1.75	5.63	6.48	13.17	85.65	23.15
TEXAS	.08	.18	2.61	.03	2.23	54.60	4.96	.95	.82	.21	.29	26.32
VIRGINIA	9.32	.99	73.53	29.55	12.61	.03	0.	0.	0.	.14	479.40	.08
W VIRGINIA	299.57	131.96	1854.77	9.94	7.93	0.	0.	0.	0.	154.14	209.59	0.
WISCONSIN	37.23	61.07	52.78	17.88	3.87	.03	221.44	23.78	23.13	43.88	6.52	14.66
MANITOBA	.29	.58	.52	.00	.02	0.	.32	.92	1.61	.30	.67	1.10
N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ONTARIO	234.74	338.81	52.02	.30	2.39	0.	.12	132.37	203.80	272.67	35.01	0.
QUEBEC	79.39	78.76	0.	0.	0.	0.	0.	.18	159.21	.01	0.	0.
NFLDFDND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO4)	1919.6	2130.8	5960.9	2743.1	575.7	381.6	1290.2	358.7	548.3	1895.8	1897.3	1803.2

SECTION 6

MODEL EVALUATION

The previous comparisons (in Section 4) of computations from ENAMAP-1 and ENAMAP-1A showed large differences in the results. These differences resulted from changing the transformation and deposition rates used previously in ENAMAP-1 to conform in ENAMAP-1A to recently published results. Model validation is very difficult because of the uncertainties of representing these complex processes in practical ways as well as the lack of validation data for wet and dry deposition. We also wish to point out that no empirical adjustments have been made to the model to improve its validation.

The principal validation data are for SO_2 and $SO_4^=$ concentrations. In Section 4 we showed that the modeled patterns conform reasonably well to measured patterns, although there are considerable differences in local values. In this section scatter diagrams are shown for observed and modeled concentrations for areas 140 km on a side. Figure 18 shows predicted versus measured concentrations of SO_2 for January and August. The calculated results for January show a correlation coefficient (r) of 0.71 with measured results; this is the highest correlation of the four concentration fields. The August SO_2 correlation coefficient is 0.48, which indicates that there is much random scatter. Figure 19 is a comparable figure of the $SO_4^=$ results. The correlation coefficient for January is 0.51. As shown in Figure 7 (parts a and c), the model concentrations of $SO_4^=$ are lower than observed values in the western part of the domain, and greater than observed values in the eastern part. (As mentioned earlier, the air entering the domain is assumed to be pollution free.) The concentrations for August show the same general pattern and have a correlation factor of only 0.23. One can interpret the overprediction in the eastern part of the grid to indicate that the new transformation rate is too high or that the $SO_4^=$ deposition rates (perhaps the nighttime dry deposition in particular) are too low; however, this interpretation is tentative.

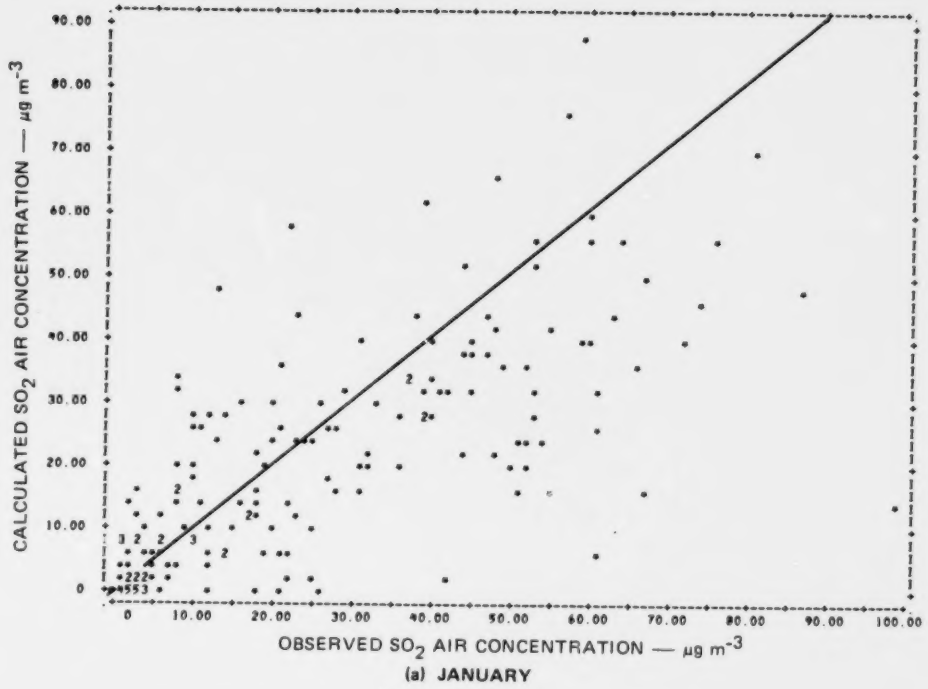
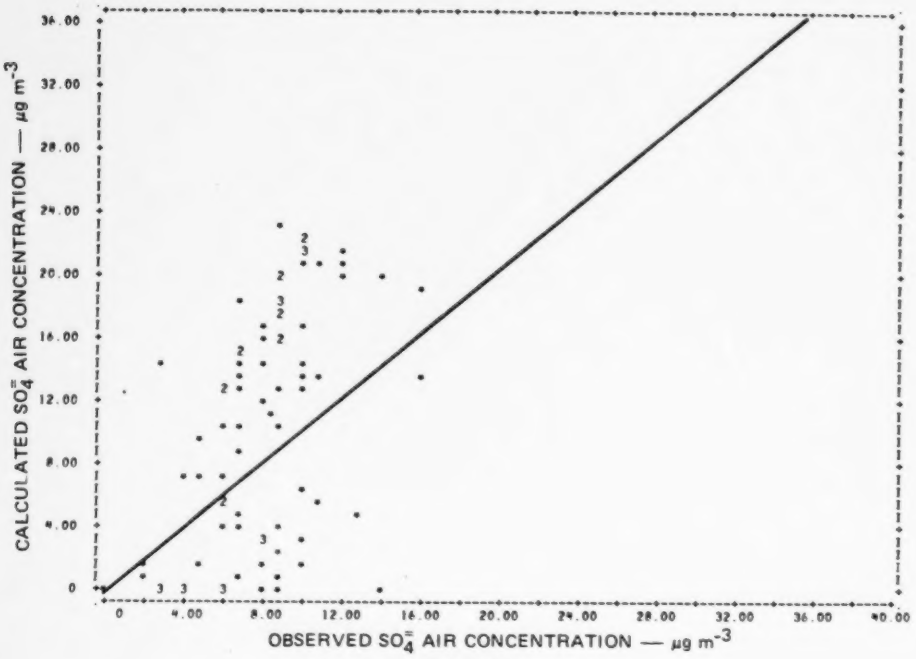
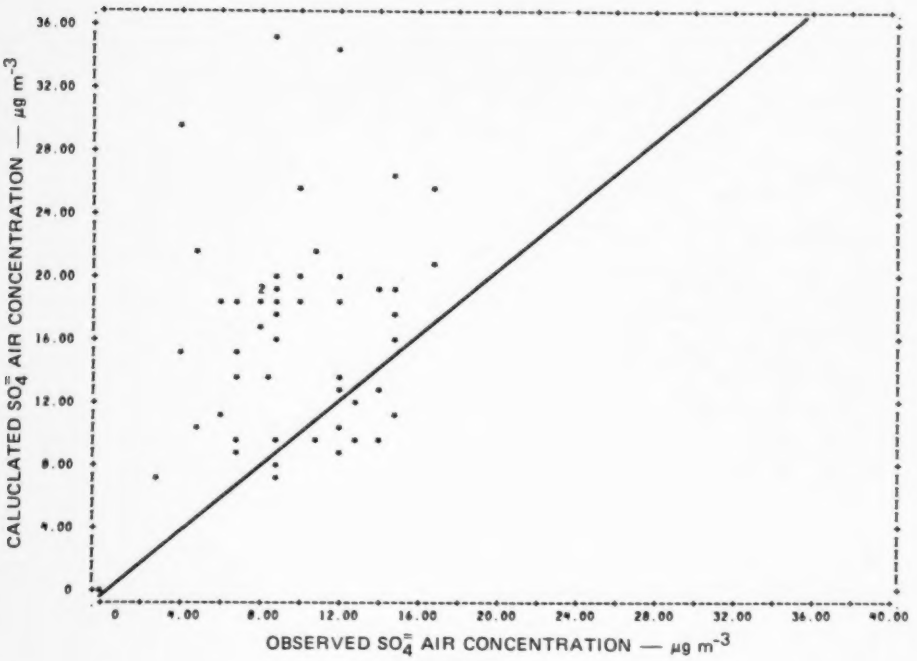

CALCULATED SO_2 AIR CONCENTRATION — $\mu g\ m^{-3}$
OBSERVED SO_2 AIR CONCENTRATION — $\mu g\ m^{-3}$
(a) JANUARY
CALCULATED SO_2 AIR CONCENTRATION — $\mu g\ m^{-3}$
OBSERVED SO_2 AIR CONCENTRATION — $\mu g\ m^{-3}$
(b) AUGUST

FIGURE 18 SCATTER DIAGRAM OF OBSERVED MONTHLY VALUES VERSUS CALCULATED MONTHLY VALUES OF SO_2 CONCENTRATIONS FOR JANUARY AND AUGUST 1977



(a) JANUARY



(b) AUGUST

FIGURE 19 SCATTER DIAGRAM OF OBSERVED MONTHLY VALUES VERSUS CALCULATED MONTHLY VALUES OF $SO_4^=$ CONCENTRATIONS FOR JANUARY AND AUGUST 1977

SECTION 7

SUMMARY AND CONCLUDING REMARKS

This study describes a new version (called ENAMAP-1A) of the ENAMAP-1 model for long-range airborne pollution transport and removal. Applications of ENAMAP-1 have been described by Bhumualkar et al. (1980a, 1980b). The new version covers a larger geographical area and includes emission data and weather observations from southeastern Canada as well as from the eastern United States.

The transformation and deposition rates in ENAMAP-1A have been changed to conform to recently published values. The new transformation rate for SO_2 to $SO_4^=$ in ENAMAP-1A varies with solar insolation (i.e. depends on latitude and season). It is several times larger than the rate used previously. This factor, combined with greater $SO_4^=$ deposition rates, significantly increases the $SO_4^=$ deposition amounts, and the deposition amounts for SO_2 are correspondingly decreased. In ENAMAP-1A the total sulfur depositions (from SO_2 and $SO_4^=$ combined) are much less than previous (ENAMAP-1) amounts for January and are moderately less for August. Unfortunately, extensively measured deposition data to compare with the simulations are not available. However, the computed SO_2 and $SO_4^=$ concentrations can be compared to air quality data (measured values of airborne SO_2 and $SO_4^=$). The SO_2 concentrations given by ENAMAP-1A for January are closer to measured values than previous computations, particularly in the northern and southern parts of the domain. The pattern of August SO_2 concentrations are very similar to previous computations. The ENAMAP-1A computations of $SO_4^=$ concentrations are too large for both January and August by a factor of approximately 2 over much of the eastern part of the model domain. Because of the lack of SO_2 and $SO_4^=$ deposition measurements it is not possible to judge the overall accuracy of the ENAMAP-1A results. As such data become available, total model evaluation will become possible. The present overprediction of $SO_4^=$ concentrations can be taken as evidence that the new transformation rate is too high and/or that the new $SO_4^=$ deposition rates are too low.

Research under the existing contract is continuing. ENAMAP-1A is being further developed to include the effects of terrain on the wind flow and to divide the boundary layer into three sublayers with vertical mixing between them. This formulation will permit emissions from near-ground sources to be injected into sublayer 1 and tall stack emissions to be injected into sublayer 2. As more research is conducted, the transformation rates will be refined. Efforts will be made to fine-tune the model using these parameters to improve model performance. Also a version of the model is being developed to include NO_x emissions and NO_x chemistry.

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APPENDIX A

CALCULATED INTERSTATE EXCHANGES OF SO_2 AND $SO_4^=$ DRY AND WET DEPOSITIONS (kton) FOR JANUARY AND AUGUST 1977

TABLE A-1. JANUARY 1977 SO_2 DRY DEPOSITIONS (kton)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO2 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 ALABAMA	8.5	.1	0.	.1	3.3	5.9	.0	.1	0.	0.	.6	.5	0.	0.	0.	
2 ARKANSAS	.1	.5	0.	.0	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0	0.	
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4 DEL/MD/DC	9.	0.	0.	1.9	0.	0.	0.	0.	0.	0.	0.	0.	0.	.0	.0	
5 FLORIDA	.2	.0	0.	.0	.9	.3	.0	0.	0.	0.	.0	.0	0.	0.	0.	
6 GEORGIA	.7	.0	0.	.0	.7	6.8	.0	.0	0.	0.	.2	.0	0.	0.	0.	
7 ILLINOIS	1.6	.4	0.	.4	.4	2.1	11.7	6.2	.6	.1	6.4	.0	.2	1.2	0.	
8 INDIANA	.2	.0	0.	.9	.1	.8	1.3	13.8	.0	0.	8.8	0.	.3	1.0	0.	
9 IOWA	.1	.1	0.	.1	.0	.3	1.1	.6	1.8	.1	.4	.0	.0	.3	.1	
10 KANSAS	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	
11 KENTUCKY	.2	.0	0.	.6	.2	1.6	.1	1.4	0.	0.	13.9	0.	.1	.0	0.	
12 LOUISIANA	.5	.5	0.	0.	.3	.6	.0	.0	.0	.0	.0	2.8	0.	0.	0.	
13 MAINE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.0	0.	0.	
14 MICHIGAN	.0	.0	0.	.6	.0	.0	.2	1.1	.0	0.	.2	0.	.6	7.1	.0	
15 MINNESOTA	.1	.0	0.	.1	.0	.2	.8	.7	1.2	.1	.3	.1	.1	.7	2.1	
16 MISS.	.4	.1	0.	.0	.2	.3	.0	.0	0.	.0	.0	.5	0.	0.	0.	
17 MISSOURI	1.2	1.7	0.	.1	.4	1.3	3.4	1.2	.5	.7	2.2	.5	.1	.3	.0	
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.3	0.	0.	
21 NEW JERSEY	0.	0.	0.	.1	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.	
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
23 NEW YORK	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	.4	.0	0.	
24 N CAROLINA	.0	0.	0.	.2	.0	.2	0.	0.	0.	0.	.0	0.	.0	0.	0.	
25 N DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.1	
26 OHIO	0.	0.	0.	2.4	.0	.0	.0	.3	0.	0.	.7	0.	.3	.1	0.	
27 OKLAHOMA	.1	.3	.0	.0	.0	.0	.0	.0	.1	.2	.0	.1	.0	.0	.0	
28 PENN	0.	0.	0.	2.7	0.	0.	0.	.0	0.	0.	.0	0.	.3	.2	0.	
29 RI/MA/CT	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	.1	0.	0.	
30 S CAROLINA	.0	0.	0.	.1	.1	.6	0.	0.	0.	0.	.0	0.	0.	0.	0.	
31 S DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
32 TENNESSEE	1.6	.2	0.	.2	.4	2.4	.2	.3	0.	0.	2.5	.1	.0	.0	0.	
33 TEXAS	.2	.5	.0	.0	.1	.1	.1	.0	.1	.2	.0	.8	.0	.0	.0	
34 VIRGINIA	0.	0.	0.	.5	.0	.0	0.	0.	0.	0.	.0	0.	.0	0.	0.	
35 W VIRGINIA	0.	0.	0.	2.9	.0	.0	0.	.0	0.	0.	.1	0.	.2	.1	0.	
36 WISCONSIN	.1	.0	0.	.2	.0	.1	1.3	1.4	.4	.0	.4	.0	.2	2.6	.1	
37 MANITOBA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.1	0.	0.	
39 ONTARIO	.0	.0	0.	.1	.0	.0	.0	.1	.0	.0	.0	.0	.9	1.2	.0	
40 QUEBEC	0.	0.	0.	.0	0.	0.	0.	.0	0.	0.	.0	0.	1.5	.0	0.	
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
TOTAL (KTON SO2)	14.0	4.4	.0	13.7	7.2	23.3	20.3	27.4	4.9	1.6	34.8	5.6	4.7	15.0	2.4	

TABLE A-1 (continued)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO2 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS													
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1 ALABAMA	2.3	.0	0.	0.	0.	.0	0.	0.	1.2	0.	.2	.0	.0	.0	1.5
2 ARKANSAS	.3	.2	0.	.0	.0	.0	0.	.0	.0	0.	.0	.0	.0	.0	.0
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	0.	.0	.2	0.	.1	.1	0.	.0	0.	0.	.3	.1	0.
5 FLORIDA	.0	.0	0.	0.	0.	.0	0.	0.	.1	0.	0.	0.	0.	0.	0.	.1
6 GEORGIA	.0	.0	0.	0.	0.	.0	0.	0.	1.1	0.	.0	0.	.0	.0	1.4
7 ILLINOIS	.9	3.5	0.	.0	.2	.2	0.	.9	2.2	0.	4.1	.0	1.4	.3	1.6
8 INDIANA	.0	.3	0.	0.	.3	.4	0.	1.8	2.5	0.	9.1	0.	2.4	.4	1.0
9 IOWA	.1	.5	0.	.0	.0	.0	0.	.1	.1	0.	.5	.0	.2	.0	.1
10 KANSAS	.0	.2	0.	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
11 KENTUCKY	.0	.0	0.	0.	.1	.2	0.	.9	4.0	0.	4.2	0.	1.3	.2	1.2
12 LOUISIANA	1.1	.1	0.	0.	0.	0.	0.	0.	.0	0.	.0	.1	0.	.0	.1
13 MAINE	0.	0.	0.	0.	.5	.0	0.	.0	0.	0.	0.	0.	0.	.1	0.
14 MICHIGAN	.0	.0	0.	0.	1.1	.8	0.	4.3	.3	0.	6.9	0.	4.2	.9	.0
15 MINNESOTA	.1	.3	0.	.0	.1	.1	0.	.3	.1	.0	.7	.0	.3	.1	.1
16 MISS.	1.2	.0	0.	0.	0.	0.	0.	0.	.0	0.	.0	.0	.0	.0	.1
17 MISSOURI	1.5	8.8	0.	.0	.1	.0	0.	.2	.7	0.	.6	.4	.3	.0	.7
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	.9	.0	0.	.1	0.	0.	0.	0.	.0	1.1	0.
21 NEW JERSEY	0.	0.	0.	0.	.1	1.8	0.	.4	0.	0.	0.	0.	.3	.1	0.
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	C.	1.1	1.8	0.	6.1	.0	0.	.0	0.	.7	2.3	0.
24 N CAROLINA	0.	0.	0.	0.	.0	.0	0.	.0	4.9	0.	.0	0.	.1	.0	1.4
25 N DAKOTA	.0	.1	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
26 OHIO	0.	0.	0.	0.	.4	1.0	0.	3.8	1.5	0.	14.5	0.	7.8	.8	.0
27 OKLAHOMA	.2	.2	0.	.0	.0	.0	.0	.0	.0	0.	.0	.4	.0	.0	.0
28 PENN.	0.	0.	0.	0.	.6	2.4	0.	3.6	.3	0.	.7	0.	12.3	1.1	0.
29 RI/MA/CT	0.	0.	0.	0.	.1	.0	0.	.2	0.	0.	0.	0.	.0	1.1	0.
30 S CAROLINA	0.	0.	0.	0.	0.	.0	0.	.0	.4	0.	0.	0.	.0	.0	2.5
31 S DAKOTA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	1.2	.2	0.	0.	.0	.1	0.	.0	2.3	0.	.4	.0	.3	.0	1.4
33 TEXAS	.4	.2	0.	.0	.0	.0	.1	.0	.0	0.	.0	.4	.0	.0	.0
34 VIRGINIA	0.	0.	0.	0.	.0	.2	0.	.1	3.2	0.	.0	0.	.2	.0	.2
35 W VIRGINIA	0.	0.	0.	0.	.4	1.3	0.	2.6	1.4	0.	4.4	0.	7.0	.4	.1
36 WISCONSIN	.1	.2	0.	.0	.3	.1	0.	1.0	.3	0.	1.7	.0	.7	.2	.2
37 MANITOBA	.0	.0	0.	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
38 N BRUNS	0.	0.	0.	0.	.0	0.	0.	.0	0.	0.	0.	0.	0.	.0	0.
39 ONTARIO	.0	.0	0.	.0	1.4	.4	0.	3.7	.0	.0	.4	.0	1.1	.9	.0
40 QUEBEC	0.	0.	0.	0.	1.3	.0	0.	.7	.0	0.	.0	0.	.1	.5	0.
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO2)	9.4	14.8	.0	.3	9.2	11.2	.1	31.0	27.5	.2	68.0	2.0	41.1	11.0	14.2

TABLE A-1 (concluded)

EMITTER REGION	TOTAL 31	CONTRIBUTIONS TO SO2 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS 32	33	34	35	36	37	38	39	40	41
1 ALABAMA	0.	1.3	.0	.5	.1	0.	0.	.0	0.	0.	0.
2 ARKANSAS	0.	.1	.0	.0	.0	.0	0.	.0	.0	.0	0.
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	.7	.0	0.	0.	.0	.1	.0	.0
5 FLORIDA	0.	.0	0.	.0	0.	0.	C	0.	0.	0.	0.
6 GEORGIA	0.	.5	0.	.4	.2	0.	0.	0.	0.	0.	0.
7 ILLINOIS	0.	4.4	.0	1.6	1.7	.3	0.	.2	2.7	1.1	.1
8 INDIANA	0.	1.6	0.	3.1	4.6	.1	0.	.2	3.1	1.3	.1
9 IOWA	.0	.3	.0	.1	.2	.5	0.	.0	.5	.3	.0
10 KANSAS	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0	.0
11 KENTUCKY	0.	3.0	0.	3.2	2.9	0.	0.	.1	.4	.1	.0
12 LOUISIANA	0.	.1	1.1	.0	.0	0.	0.	.0	0.	0.	0.
13 MAINE	0.	0.	0.	0.	0.	0.	0.	.0	.0	.0	.0
14 MICHIGAN	0.	.0	0.	.7	.7	.3	0.	.4	12.2	3.2	.3
15 MINNESOTA	.0	.1	.0	.1	.2	2.8	.0	.1	1.4	.6	.1
16 MISS.	0.	.1	.1	.0	.0	0.	0.	.0	0.	0.	0.
17 MISSOURI	0.	2.8	.1	.4	.4	.1	0.	.1	.7	.1	.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	.2	.0	.5	.0
21 NEW JERSEY	0.	0.	0.	.0	0.	0.	0.	.1	.1	.1	.0
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	.0	.0	0.	0.	.4	1.6	1.1	.1
24 N CAROLINA	0.	.0	0.	.7	.1	0.	0.	.0	.0	0.	0.
25 N DAKOTA	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26 OHIO	0.	.0	0.	3.2	7.4	0.	0.	.2	1.8	1.5	.1
27 OKLAHOMA	.0	.1	.3	.0	.0	.0	0.	.0	.0	.0	0.
28 PENN.	0.	0.	0.	.9	1.4	0.	0.	.3	1.1	.8	.1
29 RI/MA/CT	0.	0.	C	0.	0.	0.	0.	.1	.0	.2	.0
30 S CAROLINA	0.	.0	0.	.2	.0	0.	0.	.0	0.	0.	0.
31 S DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	0.	6.4	.0	.9	.4	0.	0.	.0	.0	.0	.0
33 TEXAS	.0	.1	5.6	.0	.0	.0	0.	.0	.0	.0	0.
34 VIRGINIA	0.	.0	0.	4.1	.2	0.	0.	.1	.1	.0	.0
35 W VIRGINIA	0.	.0	0.	4.1	9.1	0.	0.	.2	.7	.7	.1
36 WISCONSIN	0.	.2	.0	.3	.4	4.4	0.	.1	3.5	1.0	.2
37 MANITOBA	.0	.0	.0	.0	.0	.1	.1	.0	.1	.0	.0
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	.0	.0	.0	.0
39 ONTARIO	.0	.0	0.	.1	.1	.1	.0	.0	14.3	7.0	.5
40 QUEBEC	0.	0.	0.	.0	.0	0.	0.	1.1	2.1	11.7	.5
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO2)	.3	21.2	7.4	25.4	20.3	8.7	.2	5.7	46.5	33.3	2.4

TABLE A-2. JANUARY 1977 SO_2 WET DEPOSITIONS (kton)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO2 WET DEPOSITIONS WITHIN RECEPTOR REGIONS														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 ALABAMA	1.1	.0	0.	.0	.1	.4	.0	.0	0.	0.	.1	.2	0.	0.	0.	
2 ARKANSAS	.0	.0	0.	.0	0	.0	.0	0	.0	.0	.0	.0	.0	.0	.0	0.
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	.1	0.	0.	0.	0	0.	0.	0.	0.	0.	.0	.0	0.
5 FLORIDA	.1	.0	0.	.0	.1	.1	0.	0.	0.	0.	0.	.0	0.	0.	0.	0.
6 GEORGIA	.2	.0		.0	.0	.7	0.	0.	0.	0.	0.	.1	.0	0.	0.	0.
7 ILLINOIS	.1	.1		.0	.0	.1	.5	.2	.0	.0	.2	.0	.0	.0	.0	0.
8 INDIANA	.0	.0	0.	.1	.0	.0	.1	.4	0.	0.	.5	0.	.0	.0	.0	0.
9 IOWA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 KANSAS	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	0.
11 KENTUCKY	.0	.0	0.	.1	.0	.1	.0	.1	0.	0.	.0	0.	0.	.0	.0	0.
12 LOUISIANA	.0	.1	0.	0.	.0	.0	.0	.0	0.	0.	.0	.0	.6	0.	0.	0.
13 MAINE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 MICHIGAN	.0	0.	0.	.0	0.	.0	.0	.1	.0	0.	.0	0.	0.	.0	.1	0.
15 MINNESOTA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16 MISS.	.0	.0	0.	.0	.0	.0	.0	.0	0.	.0	.0	.0	.0	0.	0.	0.
17 MISSOURI	.0	.2	0.	.0	.0	.0	.2	.1	.0	.0	.1	.0	.0	.0	.0	.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 NEW JERSEY	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.
24 N CAROLINA	.0	0.	0.	.0	.0	.0	0.	0.	0.	0.	.0	0.	0.	.0	0.	0.
25 N DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26 OHIO	0.	0.	0.	.2	0.	0.	.0	.0	0	0.	.0	0.	0.	.0	0.	0.
27 OKLAHOMA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	0.
28 PENN.	0.	0.	0.	.1	0.	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.
29 RI/MA/CT	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.
30 S CAROLINA	.0	0.	0.	.0	.0	.1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 S DAKOTA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	.1	.0	0.	.0	.0	.2	.0	.0	0.	0.	.0	.4	.0	.0	0.	0.
33 TEXAS	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	0.
34 VIRGINIA	0.	0.	0.	.1	.0	.0	0.	0.	0.	0.	0.	.0	0.	.0	.0	0.
35 W VIRGINIA	0.	0.	0.	.2	.0	.0	0.	0.	0.	0.	0.	.0	0.	.0	.0	0.
36 WISCONSIN	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0
37 MANITORA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 ONTARIO	.0	0.	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0
40 QUEBEC	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	.0	.0	0.
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO2)	1.7	.5	.0	1.0	.3	1.8	.9	1.0	.1	.1	2.3	1.0	.1	.3	.0	

TABLE A-2 (continued)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO2 WET DEPOSITIONS WITHIN RECEPTOR REGIONS													
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1 ALABAMA	.4	.0	0.	0.	0.	0.	0.	0.	.1	0.	.0	.0	.0	0.	.1
2 ARKANSAS	.0	.0	0.	.0	0.	.0	0.	.0	.0	0.	.0	.0	.0	.0	.0
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	0.	.0	.0	0.	.0	.0	0.	0.	0.	0.	0.	0.
5 FLORIDA	.0	.0	0.	0.	0.	.0	0.	0.	.0	0.	0.	0.	0.	0.	.0
6 GEORGIA	.0	0.	0.	0.	0.	.0	0.	0.	.1	0.	.0	0.	.0	0.	.2
7 ILLINOIS	.1	.2	0.	0.	.0	.0	0.	.0	.1	0.	.2	.0	.0	.0	.1
8 INDIANA	.0	.0	0.	0.	.0	.0	0.	.0	.1	0.	.4	0.	.1	.0	.0
9 IOWA	.0	.0	.0	.0	.0	.0	0.	.0	.0	0.	.0	.0	.0	.0	.0
10 KANSAS	.0	.0	.0	.0	.0	.0	0.	.0	.0	0.	.0	.0	.0	.0	.0
11 KENTUCKY	.0	.0	0.	0.	.0	.0	0.	.0	.2	0.	.2	0.	.1	.0	.1
12 LOUISIANA	.2	.0	0.	0.	0.	0.	0.	0.	.0	0.	0.	.0	0.	0.	.0
13 MAINE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 MICHIGAN	.0	.0	0.	0.	.0	.0	0.	.0	.0	0.	.1	0.	.1	.0	.0
15 MINNESOTA	.0	.0	0.	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
16 MISS.	.2	.0	0.	0.	0.	0.	0.	0.	.0	0.	.0	.0	.0	0.	.0
17 MISSOURI	.1	.1	0.	.0	.0	.0	0.	.0	.1	0.	.0	.0	.0	.0	.1
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	.0	.0	0.	.0	0.	0.	0.	0.	.0	.1	0.
21 NEW JERSEY	0.	0.	0.	0.	.0	.1	0.	.0	0.	0.	0.	0.	.1	.0	0.
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	0.	.0	.1	0.	.2	0.	0.	0.	0.	.1	.1	0.
24 N CAROLINA	0.	0.	0.	0.	0.	.0	0.	.0	.4	0.	.0	0.	.0	.0	.1
25 N DAKOTA	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
26 OHIO	0.	0.	0	0.	.0	.0	0.	.1	.0	0.	.4	0.	.3	.0	.0
27 OKLAHOMA	.0	.0	0.	.0	.0	.0	0.	.0	.0	0.	.0	.0	.0	.0	.0
28 PENN.	0.	0.	0.	0.	.0	.1	0.	.1	.0	0.	.0	0.	.5	.1	0.
29 RI/MA/CT	0.	0.	0.	0.	.0	.0	0.	.0	0.	0.	0.	0.	.0	.1	0.
30 S CAROLINA	0.	0.	0.	0.	0.	.0	0.	.0	.1	0.	0.	0.	.0	.0	.2
31 S DAKOTA	.0	.0	0.	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	.1	.0	0.	0.	.0	.0	0.	.0	.2	0.	.0	.0	.0	.0	.1
33 TEXAS	.0	.0	0.	.0	0.	.0	.0	.0	.0	0.	.0	.0	.0	.0	.0
34 VIRGINIA	0.	0.	0.	0.	.0	.0	0.	.0	.1	0.	.0	0.	.0	.0	.0
35 W VIRGINIA	0.	0.	0.	0.	.0	.0	0.	.1	.1	0.	.1	0.	.4	.0	.0
36 WISCONSIN	.0	.0	0.	0.	.0	.0	0.	.0	.0	0.	.0	0.	.0	.0	.0
37 MANITOBA	.0	.0	0.	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
38 N BRUNS	0.	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 ONTARIO	.0	.0	0.	0.	.0	.0	0.	.0	.0	0.	0.	0.	.0	.1	.0
40 QUEBEC	0.	0.	0.	0.	.0	.0	0.	.0	0.	0.	0.	0.	.0	.1	0.
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO2)	1.4	.8	.0	.0	.3	.4	.0	.7	1.8	.0	1.8	.1	1.9	.7	.9

TABLE A-2 (concluded)

EMITTER REGION	TOTAL 31	CONTRIBUTIONS TO SO2 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 32	33	34	35	36	37	38	39	40	41
1 ALABAMA	0.	.0	.0	.0	.0	0.	0.	0.	0.	0.	0.
2 ARKANSAS	0.	.0	.0	.0	.0	.0	0.	.0	.0	0.	0.
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	.0	.0	0.	0.	.0	.0	0.	0.
5 FLORIDA	0.	.0	0.	.0	0.	0.	0.	0.	0.	0.	0.
6 GEORGIA	0.	.2	0.	.0	.0	0.	0.	0.	0.	0.	0.
7 ILLINOIS	0.	.2	0.	.1	.1	.0	0.	.0	.0	0.	0.
8 INDIANA	0.	.1	0.	.1	.2	.0	0.	.0	.1	0.	0.
9 IOWA	.0	.0	.0	.0	.0	.0	0.	.0	.0	0.	0.
10 KANSAS	.0	.0	.0	.0	.0	.0	0.	.0	.0	0.	0.
11 KENTUCKY	0.	.2	0.	.2	.3	0.	0.	.0	.0	0.	0.
12 LOUISIANA	0.	.0	.3	.0	.0	0.	0.	0.	0.	0.	0.
13 MAINE	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.	0.
14 MICHIGAN	0.	.0	0.	.0	.0	.0	0.	.0	.2	0.	0.
15 MINNESOTA	.0	.0	.0	.0	.0	.1	0.	.0	.0	0.	0.
16 MISS.	0.	.0	.0	.0	.0	0.	0.	0.	0.	0.	0.
17 MISSOURI	0.	.1	.0	.0	.0	.0	0.	.0	.0	0.	0.
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	0.	.0	.0	0.	0.
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.	0.
21 NEW JERSEY	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.	0.
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	.0	0.	0.	0.	.0	.0	0.	0.
24 N CAROLINA	0.	.0	0.	.2	.0	0.	0.	0.	0.	0.	0.
25 N DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	0.	0.
26 OHIO	0.	0.	0.	.2	.4	0.	0.	.0	.0	0.	0.
27 OKLAHOMA	0.	.0	.0	.0	.0	.0	0.	0.	.0	0.	0.
28 PENN.	0.	0.	0.	.0	.1	0.	0.	.0	.0	0.	0.
29 RI/MA/CT	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.	0.
30 S CAROLINA	0.	.0	0.	.0	.0	0.	0.	0.	0.	0.	0.
31 S DAKOTA	.0	.0	.0	.0	.0	.0	0.	.0	.0	0.	0.
32 TENNESSEE	0.	.1	.0	.1	.1	0.	0.	.0	.0	0.	0.
33 TEXAS	0.	.0	.1	.0	.0	.0	0.	.0	.0	0.	0.
34 VIRGINIA	0.	.0	0.	.0	.1	0.	0.	.0	.0	0.	0.
35 W VIRGINIA	0.	0.	0.	.3	.1	0.	0.	.0	.0	0.	0.
36 WISCONSIN	0.	.0	0.	.0	.0	.1	0.	.0	.0	0.	0.
37 MANITOBA	.0	.0	.0	.0	.0	.0	.0	.0	.0	0.	0.
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.	0.
39 ONTARIO	.0	.0	0.	.0	.0	.0	0.	.0	.1	0.	0.
40 QUEBEC	0.	0.	0.	.0	.0	0.	0.	.0	.0	0.	0.
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO2)	.0	1.5	.4	1.8	2.0	.2	.0	.2	.4	.0	.0

TABLE A-3. JANUARY 1977 $SO_4^=$ DRY DEPOSITIONS (kton)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO4 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 ALABAMA	2.7	.1	0.	.1	1.9	3.2	.0	.1	0.	0.	.5	.6	0.	0.	0.
2 ARKANSAS	.2	.3	0.	.0	.1	.1	.0	.0	.0	.0	.0	.1	.0	.0	0.
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	.3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 FLORIDA	.1	.0	0.	.0	.4	.2	.0	0.	0.	0.	0.	0.	.0	.0	0.
6 GEORGIA	.5	.0	0.	.1	.5	2.1	.0	.0	0.	0.	.2	.0	0.	0.	0.
7 ILLINOIS	1.4	.4	0.	.6	.6	2.3	2.2	2.5	.1	.1	3.7	.0	.6	.6	0.
8 INDIANA	.2	.0	0.	.9	.1	.9	.5	2.6	.0	0.	3.3	0.	.4	.3	0.
9 IOWA	.2	.1	0.	.1	.1	.4	.5	.4	.3	.1	.4	.1	.1	.2	.0
10 KANSAS	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 KENTUCKY	.3	.0	0.	.7	.3	1.4	.0	.6	0.	0.	.4	0.	.1	.0	0.
12 LOUISIANA	.7	.6	0.	0.	.4	.8	.1	.0	.0	.1	.0	1.5	0.	0.	0.
13 MAINE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.4	0.	0.
14 MICHIGAN	.0	.0	0.	.4	.0	.0	.1	.5	.0	0.	.2	0.	.9	1.3	.0
15 MINNESOTA	.1	.0	0.	.2	.1	.3	.4	.4	.4	.0	.4	.1	.2	.4	.4
16 MISS.	.4	.1	0.	.0	.2	.4	.0	.0	0.	.0	.0	.4	.0	0.	0.
17 MISSOURI	1.4	1.4	0.	.2	.7	1.8	1.4	1.2	.3	.3	1.5	.7	.2	.2	.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.2	0.	0.
21 NEW JERSEY	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.1	0.	0.
23 NEW YORK	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 N CAROLINA	.0	0.	0.	.1	.1	.2	0.	0.	0.	0.	0.	0.	.4	.0	0.
25 N DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	0.	0.	0.	.0	0.	0.
26 OHIO	0.	0.	0.	1.5	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.1
27 OKLAHOMA	.1	.3	.0	.0	.0	.1	.0	.0	.1	.2	.0	.0	.0	.0	.0
28 PENN.	0.	0.	0.	.8	0.	0.	0.	.0	0.	0.	0.	0.	.4	.1	0.
29 RI/MA/CT	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 S CAROLINA	.0	0.	0.	.1	.1	.5	0.	0.	0.	0.	0.	0.	.1	0.	0.
31 S DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	0.	.0	0.	0.	0.	0.
32 TENNESSEE	.9	.2	0.	.2	.5	1.8	.1	.2	0.	0.	1.6	.1	.0	.0	0.
33 TEXAS	.4	.9	.0	.0	.1	.4	.1	.1	.1	.3	.0	.9	.0	.0	.0
34 VIRGINIA	0.	0.	0.	.2	.0	.0	0.	0.	0.	0.	.0	0.	.0	.0	0.
35 W VIRGINIA	0.	0.	0.	1.3	.0	.0	0.	.0	0.	0.	.0	0.	.3	.1	0.
36 WISCONSIN	.1	.0	0.	.2	.1	.2	.5	.6	.1	.0	.3	.0	.4	1.1	.0
37 MANITOBA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.
39 ONTARIO	.0	.0	0.	.1	.0	.0	.0	.1	.0	.0	.0	.0	1.3	.4	.0
40 QUEBEC	0.	0.	0.	.0	0.	0.	0.	.0	0.	0.	.0	0.	1.4	.0	0.
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO4)	9.8	4.5	.0	8.1	5.9	17.2	6.1	9.4	1.6	1.2	17.1	4.8	8.2	5.1	.6

TABLE A-3 (continued)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO4 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS													
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1 ALABAMA	1.2	.0	0.	0.	0.	.0	0.	0.	1.3	0.	.2	.0	.0	.0	1.4
2 ARKANSAS	.2	.2	0.	.0	.0	.0	0.	.0	.0	0.	.0	.0	.0	0.	.0
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	0.	.0	.1	0.	.1	.1	0.	.0	0.	.1	.1	0.
5 FLORIDA	.0	.0	0.	0.	0.	.0	0.	0.	.1	0.	0.	0.	0.	0.	.1
6 GEORGIA	.1	.0	0.	0.	0.	.0	0.	0.	.9	0.	.0	0.	.0	.0	1.0
7 ILLINOIS	.9	1.6	0.	.0	.3	.2	0.	1.0	2.5	0.	2.9	.0	1.5	.3	1.8
8 INDIANA	.0	.2	0.	0.	.4	.3	0.	1.8	2.3	0.	4.1	0.	2.3	.5	.9
9 IOWA	.1	.3	0.	.0	.1	.0	0.	.2	.3	0.	.4	.0	.2	.1	.2
10 KANSAS	.1	.1	0.	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
11 KENTUCKY	.0	.0	0.	0.	.1	.2	0.	.8	2.9	0.	1.7	0.	1.2	.2	1.0
12 LOUISIANA	.9	.2	0.	0.	0.	0.	0.	0.	.1	0.	.0	.1	0.	.0	.1
13 MAINE	0.	0.	0.	0.	.2	.0	0.	.0	0.	0.	0.	0.	0.	.0	0.
14 MICHIGAN	.0	.0	0.	0.	1.0	.6	0.	3.0	.2	0.	1.8	0.	2.2	.7	.0
15 MINNESOTA	.1	.2	0.	.0	.2	.1	0.	.4	.3	.0	.6	.0	.4	.2	.2
16 MISS.	.6	.1	0.	0.	0.	0.	0.	0.	.0	0.	.0	.0	.0	.0	.1
17 MISSOURI	1.4	2.7	0.	.0	.2	.1	0.	.2	1.1	0.	.8	.5	.4	.1	1.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	.2	.0	0.	.1	0.	0.	0.	0.	.0	.3	0.
21 NEW JERSEY	0.	0.	0.	0.	.1	.3	0.	.2	0.	0.	0.	0.	.1	.0	0.
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	0.	.6	.4	0.	1.8	.0	0.	.0	0.	.2	.7	0.
24 N CAROLINA	0.	0.	0.	0.	.0	.0	0.	.0	1.3	0.	.0	0.	.1	.0	.6
25 N DAKOTA	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26 OHIO	0.	0.	0.	0.	.4	.6	0.	2.7	1.1	0.	2.6	0.	3.7	.6	.0
27 OKLAHOMA	.2	.1	0.	.0	.0	.0	.0	.0	.0	0.	.0	.3	.0	.0	.0
28 PENN.	0.	0.	0.	0.	.4	.8	0.	2.1	.2	0.	.2	0.	2.6	.6	0.
29 RI/MA/CT	0.	0.	0.	0.	.1	.0	0.	.1	0.	0.	0.	0.	.0	.2	0.
30 S CAROLINA	0.	0.	0.	0.	0.	.0	0.	.0	.3	0.	0.	0.	.0	.0	.6
31 S DAKOTA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	.5	.1	0.	0.	.0	.1	0.	.0	1.7	0.	.3	.0	.4	.0	1.1
33 TEXAS	.7	.4	0.	.1	.0	.0	.0	.0	.1	0.	.0	.7	.0	.0	.1
34 VIRGINIA	0.	0.	0.	0.	.1	.1	0.	.1	1.2	0.	.0	0.	.2	.0	.1
35 W VIRGINIA	0.	0.	0.	0.	.3	.7	0.	1.8	.9	0.	.7	0.	2.6	.5	.1
36 WISCONSIN	.1	.1	0.	.0	.4	.2	0.	1.1	.4	0.	1.1	.0	.7	.3	.3
37 MANITOBA	.0	.0	0.	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
38 N BRUNS	0.	0.	0.	0.	.0	0.	0.	.0	0.	0.	0.	0.	0.	.0	0.
39 ONTARIO	.0	.0	0.	.0	1.2	.3	0.	2.2	.0	.0	.2	.0	.6	.6	.0
40 QUEBEC	0.	0.	0.	0.	.7	.0	0.	.4	.0	0.	.0	0.	.1	.3	0.
41 NFLD/LAND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO4)	7.0	6.6	.0	.2	6.9	5.1	.1	20.1	19.6	.1	17.8	1.8	19.8	6.3	10.8

TABLE A-3 (concluded)

EMITTER REGION	TOTAL 31	CONTRIBUTIONS TO SO4 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS 32	33	34	35	36	37	38	39	40	41
1 ALABAMA	0.	1.1	.0	.6	.2	0.	0.	.0	0.	0.	0.
2 ARKANSAS	0.	.1	.1	.0	.0	.0	0.	.0	.0	.0	0.
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	.1	.0	0.	0.	.1	.0	.0	.0
5 FLORIDA	0.	.0	0.	.0	0.	0.	0.	0.	0.	0.	0.
6 GEORGIA	0.	.3	0.	.5	.2	0.	0.	0.	0.	0.	0.
7 ILLINOIS	0.	3.0	.0	2.0	1.5	.1	0.	.3	2.1	2.5	.3
8 INDIANA	0.	1.2	0.	2.8	3.2	.0	0.	.4	2.0	2.5	.5
9 IOWA	.0	.4	.0	.2	.2	.2	0.	.1	.6	.7	.1
10 KANSAS	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0	.0
11 KENTUCKY	0.	1.4	0.	2.6	2.1	0.	0.	.2	.3	.2	.1
12 LOUISIANA	0.	.1	1.0	.0	.0	0.	0.	.0	0.	0.	0.
13 MAINE	0.	0.	0.	0.	0.	0.	0.	.3	.0	.0	.1
14 MICHIGAN	0.	.0	0.	.6	.4	.1	0.	.6	4.3	5.9	.9
15 MINNESOTA	.0	.2	.0	.2	.2	.0	.0	.2	1.6	1.8	.2
16 MISS.	0.	.1	.2	.0	.0	0.	0.	.0	0.	0.	0.
17 MISSOURI	0.	2.2	.2	.7	.6	.1	0.	.2	.7	.2	.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	.2	.0	.4	.0
21 NEW JERSEY	0.	0.	0.	.0	0.	0.	0.	.1	.0	.1	.0
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	.0	.0	0.	0.	.4	.3	1.2	.3
24 N CAROLINA	0.	.0	0.	.3	.1	0.	0.	.0	.0	0.	0.
25 N DAKOTA	.1	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0
26 OHIO	0.	.0	0.	1.8	2.4	0.	0.	.3	.7	2.2	.3
27 OKLAHOMA	.0	.1	.3	.0	.0	.0	0.	.0	.0	.0	0.
28 PENN.	0.	0.	0.	.4	.3	0.	0.	.3	.4	1.1	.1
29 RI/MA/CT	0.	0.	0.	0.	0.	0.	0.	.1	.0	.2	.0
30 S CAROLINA	0.	.0	0.	.1	.0	0.	0.	.0	0.	0.	0.
31 S DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0
32 TENNESSEE	0.	2.2	.0	.9	.5	0.	0.	.1	.0	.0	.0
33 TEXAS	.0	.2	3.0	.0	.0	.0	0.	.0	.0	.0	0.
34 VIRGINIA	0.	.0	0.	1.0	.1	0.	0.	.1	.0	.0	.0
35 W VIRGINIA	0.	.0	0.	1.8	1.9	0.	0.	.3	.4	1.0	.4
36 WISCONSIN	0.	.2	.0	.4	.3	.6	0.	.3	2.6	3.4	.5
37 MANITOBA	.0	.0	.0	.0	.0	.0	.0	.0	.2	.1	.0
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	.3	.0	.4	.1
39 ONTARIO	.0	.0	0.	.0	.1	.0	.0	1.0	4.2	9.1	1.0
40 QUEBEC	0.	0.	0.	.0	.0	0.	0.	1.4	.8	8.5	1.0
41 NEWFDLND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO4)	.1	12.9	5.0	17.4	14.5	2.1	.1	7.4	21.5	42.7	6.0

TABLE A-4. JANUARY 1977 $SO_4^=$ WET DEPOSITIONS (kton)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO4 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 ALABAMA	.9	.1	0.	.0	.1	.6	.0	.0	0.	0.	.1	.0	0.	0.	0.	
2 ARKANSAS	.0	.1	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	0.	
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4 DEL/MD/DC	0.	0.	0.	.1	0.	0.	0.	0.	0.	0.	0.	0.	0.	.0	.0	
5 FLORIDA	.1	.0	0.	.0	.1	.1	0.	0.	0.	0.	.0	0.	0.	0.	0.	
6 GEORGIA	.3	.0	0.	.0	.1	.6	0.	0.	0.	0.	.1	.0	0.	0.	0.	
7 ILLINOIS	.2	.1	0.	.1	.1	.3	.2	.2	.0	.0	.4	.0	.0	.0	0.	
8 INDIANA	.0	.0	0.	.1	.0	.2	.1	.2	0.	0.	.6	0.	.0	.0	0.	
9 IOWA	.1	.0	0.	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 KANSAS	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
11 KENTUCKY	.1	.0	0.	.1	.1	.3	.0	.1	0.	0.	.8	0.	.0	.0	0.	
12 LOUISIANA	.0	.1	0.	0.	.0	.1	.0	0.	0.	0.	.0	.0	0.	0.	0.	
13 MAINE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14 MICHIGAN	.0	0.	0.	.1	0.	.0	.0	.1	.0	0.	.0	0.	.0	.1	0.	
15 MINNESOTA	.1	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
16 MISS.	.0	.0	0.	.0	.0	.0	.0	.0	0.	.0	.0	.1	0.	0.	0.	
17 MISSOURI	.1	.3	0.	.0	.1	.3	.2	.1	.0	.0	.2	.1	.0	.0	.0	
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
21 NEW JERSEY	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
23 NEW YORK	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.	
24 N CAROLINA	.0	0.	0.	.0	.0	.1	0.	0.	0.	0.	0.	0.	0.	0.	0.	
25 N DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
26 OHIO	0.	0.	0.	.2	0.	0.	.0	.0	0.	0.	.0	0.	0.	.0	0.	
27 OKLAHOMA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
28 PENN.	0.	0.	0.	.1	0.	0.	0.	0.	0.	0.	.0	0.	.0	.0	0.	
29 RI/MA/CT	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.	
30 S CAROLINA	.0	0.	0.	.0	.0	.2	0.	0.	0.	0.	.0	0.	0.	0.	0.	
31 S DAKOTA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
32 TENNESSEE	.2	.0	0.	.0	.0	.5	.0	.0	0.	0.	.5	.0	.0	0.	0.	
33 TEXAS	.1	.1	.0	.0	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0	0.	
34 VIRGINIA	0.	0.	0.	.1	.0	.0	0.	0.	0.	0.	.0	0.	.0	.0	0.	
35 W VIRGINIA	0.	0.	0.	.2	.0	.0	0.	.0	0.	0.	.0	0.	.0	.0	0.	
36 WISCONSIN	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
37 MANITOBA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
39 ONTARIO	.0	0.	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	0.	.0	.0	
40 QUEBEC	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
TOTAL (KTON SO4)	2.4	.8	.0	1.3	.6	3.5	.6	.9	.1	.2	2.9	1.3	.2	.2	.0	

TABLE A-4 (continued)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO4 WET DEPOSITIONS WITHIN RECEPTOR REGIONS													
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1 ALABAMA	.7	.0	0.	0.	0.	0.	0.	0.	.2	0.	.0	.0	.0	0.	.*
2 ARKANSAS	.0	.0	0.	.0	0.	.0	0.	.0	.0	0.	.0	.0	.0	.0	.0
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	0.	.0	.0	0.	.0	.0	0.	0.	0.	.0	.0	0.
5 FLORIDA	.0	.0	0.	0.	0.	.0	0.	0.	.0	0.	0.	0.	0.	0.	.0
6 GEORGIA	.1	0.	0.	0.	0.	.0	0.	0.	.2	0.	.0	0.	0.	0.	.2
7 ILLINOIS	.2	.3	0.	0.	.0	.0	0.	.0	.*	0.	.3	.0	.1	.0	.*
8 INDIANA	.0	.1	0.	0.	.0	.0	0.	.1	.2	0.	.*	0.	.2	.0	.1
9 IOWA	.0	.0	0.	.0	.0	.0	0.	.0	.1	0.	.0	.0	.0	.0	.0
10 KANSAS	.0	.0	0.	.0	.0	.0	0.	.0	.0	0.	.0	.0	.0	.0	.0
11 KENTUCKY	.0	.0	0.	0.	.0	.0	0.	.0	.5	0.	.2	0.	.1	.0	.2
12 LOUISIANA	.2	.0	0.	0.	0.	0.	0.	0.	.0	0.	0.	.0	0.	0.	.0
13 MAINE	0.	0.	0.	0.	.0	.0	0.	.0	0.	0.	0.	0.	0.	.0	0.
14 MICHIGAN	.0	.0	0.	0.	.0	.1	0.	.1	.0	0.	.1	0.	.2	.1	.0
15 MINNESOTA	.0	.0	0.	.0	.0	.0	0.	.0	.1	.0	.0	.0	.0	.0	.0
16 MISS	.2	.0	0.	0.	0.	0.	0.	0.	.0	0.	.0	.0	.0	0.	.0
17 MISSOURI	.3	.*	0.	.0	.0	.0	0.	.0	.*	0.	.1	.1	.0	.0	.3
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	.0	.0	0.	.0	0.	0.	0.	0.	.0	.0	0.
21 NEW JERSEY	0.	0.	0.	0.	.0	.1	0.	.0	0.	0.	0.	0.	.0	.0	0.
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	0.	.0	.1	0.	.1	0.	0.	0.	0.	.1	.1	0.
24 N CAROLINA	0.	0.	0.	0.	0.	.0	0.	.0	.*	0.	.0	0.	.0	.0	.1
25 N DAKOTA	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
26 OHIO	0.	0.	0.	0.	.0	.1	0.	.1	.1	0.	.1	0.	.*	.1	.0
27 OKLAHOMA	.1	.0	0.	.0	.0	.0	0.	.0	.0	0.	.0	.0	.0	.0	.0
28 PENN.	0.	0.	0.	0.	.0	.1	0.	.1	.0	0.	.0	0.	.3	.1	0.
29 RI/MA/CT	0.	0.	0.	0.	.0	.0	0.	.0	0.	0.	0.	0.	.0	.1	0.
30 S CAROLINA	0.	0.	0.	0.	0.	.0	0.	.0	.2	0.	0.	0.	.0	.0	.2
31 S DAKOTA	.0	.0	0.	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	.1	.0	0.	0.	.0	.0	0.	.0	.*	0.	.0	.0	.0	.0	.2
33 TEXAS	.2	.0	0.	.0	0.	.0	.0	.0	.0	0.	.0	.1	.0	.0	.0
34 VIRGINIA	0.	0.	0.	0.	.0	.0	0.	.0	.2	0.	.0	0.	.0	.0	.0
35 W VIRGINIA	0.	0.	0.	0.	.0	.1	0.	.1	.3	0.	.1	0.	.*	.1	.0
36 WISCONSIN	.0	.0	0.	0.	.0	.0	0.	.0	.0	0.	.1	0.	.0	.0	.0
37 MANITOBA	.0	.0	0.	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
38 N BRUNS	0.	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.
39 ONTARIO	.0	.0	0.	.0	.1	.0	0.	.1	.0	0.	.0	0.	.1	.1	.0
40 QUEBEC	0.	0.	0.	0.	.0	.0	0.	.0	0.	0.	0.	0.	.0	.1	0.
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO4)	2.2	1.0	.0	.0	.3	.7	.0	.*	*.2	.0	1.7	.3	2.0	1.0	2.*

TABLE A-4 (concluded)

EMITTER REGION	TOTAL 31	CONTRIBUTIONS TO SO4 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 32	33	34	35	36	37	38	39	40	41
1 ALABAMA	0.	*	0	0	0	0.	0.	0.	0.	0.	0.
2 ARKANSAS	0.	0	0	0	0	0	0.	0	0	0.	0.
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	0	0	0.	0.	0	0	0.	0.
5 FLORIDA	0.	0	0.	0	0.	0.	0.	0.	0.	0.	0.
6 GEORGIA	0.	1	0.	1	0	0.	0.	0.	0.	0.	0.
7 ILLINOIS	0.	3	0.	2	2	0	0.	0	1	0.	0.
8 INDIANA	0.	2	0.	3	*	0	0.	0	1	0.	0.
9 IOWA	0	0	0	0	0	0	0.	0	0	0.	0.
10 KANSAS	0	0	0	0	0	0	0.	0	0	0.	0.
11 KENTUCKY	0.	2	0.	*	5	0.	0.	0	0	0.	0.
12 LOUISIANA	0.	0	*	0	0	0.	0.	0.	0	0.	0.
13 MAINE	0.	0.	0.	0.	0.	0.	0.	0	0.	0.	0.
14 MICHIGAN	0.	0	0.	1	0	0	0.	0	1	0.	0.
15 MINNESOTA	0	0	0	0	0	0	0.	0	0	0.	0.
16 MISS.	0.	0	1	0	0	0.	0.	0.	0.	0.	0.
17 MISSOURI	0.	1	1	1	1	0	0.	0	0	0.	0.
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	0	0	0	0	0	0	0.	0	0	0.	0.
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	0	0.	0.	0.
21 NEW JERSEY	0.	0.	0.	0.	0.	0.	0.	0	0.	0.	0.
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	0	0.	0.	0.	0	0	0.	0.
24 N CAROLINA	0.	0	0.	2	0	0.	0.	0.	0.	0.	0.
25 N DAKOTA	0	0	0	0	0	0	0	0	0	0.	0.
26 OHIO	0.	0.	0.	3	*	0.	0.	0	0	0.	0.
27 OKLAHOMA	0.	0	0	0	0	0	0.	0.	0	0.	0.
28 PENN.	0.	0.	0.	1	1	0.	0.	0	0	0.	0.
29 RI/MA/CT	0.	0.	0.	0.	0.	0.	0.	0	0.	0.	0.
30 S CAROLINA	0.	0	0.	0	0	0.	0.	0.	0.	0.	0.
31 S DAKOTA	0	0	0	0	0	0	0.	0	0	0.	0.
32 TENNESSEE	0.	*	0	2	2	0.	0.	0	0	0.	0.
33 TEXAS	0.	0	*	0	0	0	0.	0	0	0.	0.
34 VIRGINIA	0.	0	0.	3	1	0.	0.	0	0	0.	0.
35 W VIRGINIA	0.	0.	0.	*	3	0.	0.	0	0	0.	0.
36 WISCONSIN	0.	0	0.	0	0	0	0.	0	0	0.	0.
37 MANITOBA	0	0	0	0	0	0	0	0	0	0.	0.
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	0	0.	0.	0.
39 ONTARIO	0	0	0.	0	0	0	0.	0	0	0.	0.
40 QUEBEC	0.	0.	0.	0	0	0.	0.	0	0	0.	0.
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO4)	0	1.8	1.2	2.9	2.4	.1	0	.3	*	0.	0.

TABLE A-5. AUGUST 1977 SO_2 DRY DEPOSITIONS (kton)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO2 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 ALABAMA	8.8	.3	0.	.0	1.6	1.4	.1	.2	.0	.0	.6	.2	.0	.0	0.	
2 ARKANSAS	.0	.3	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	.0	.0	0.	.8	.0	.0	.0	0.	0.	0.	0.	.0	.0	.0	0.	0.
5 FLORIDA	.3	.0	0.	.0	.9	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	0.
6 GEORGIA	.8	.0	0.	.0	.1	.0	.0	.0	.0	.0	.3	.0	.0	.0	.0	0.
7 ILLINOIS	.2	.3	0.	.1	.0	.1	.8	2.7	.4	.0	1.5	.0	.1	1.1	.0	
8 INDIANA	.2	.0	0.	.2	.0	.1	.5	.5	.0	0.	2.9	.0	.1	.9	0.	
9 IOWA	.0	.0	.0	.0	.0	.0	.3	.1	1.3	.0	.0	.0	.0	.1	.2	
10 KANSAS	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	
11 KENTUCKY	.3	.0	0.	.2	.0	.2	.0	1.1	.0	0.	4.3	.0	.1	.1	0.	
12 LOUISIANA	.1	.5	.0	.0	.1	.0	.1	.0	.0	.0	.0	3.0	.0	.0	.0	
13 MAINE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.8	0.	0.	
14 MICHIGAN	.0	0.	0.	.0	.0	.0	.0	.1	.0	0.	.0	0.	.3	3.8	.0	
15 MINNESOTA	.0	.0	.0	.0	.0	.0	.1	.0	.2	.0	.0	.0	.0	.3	1.1	
16 MISS.	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0	.0	.0	
17 MISSOURI	.0	.4	0.	.0	.0	.0	2.1	.5	.5	.5	.2	.0	.0	.2	.0	
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
21 NEW JERSEY	.0	0.	0.	.0	.0	.0	0.	0.	0.	0.	.0	0.	0.	0.	0.	
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
23 NEW YORK	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	.4	0.	0.	
24 N CAROLINA	.0	.0	0.	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	
25 N DAKOTA	.0	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0	.0
26 OHIO	.0	.0	0.	.6	.0	.0	.0	.0	0.	0.	.4	.0	.3	.0	0.	
27 OKLAHOMA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	
28 PENN	.0	0.	.0	1.3	.0	.0	.0	.0	0.	0.	.0	.0	.4	.0	0.	
29 RI/MA/CT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.2	0.	0.	
30 S CAROLINA	.0	.0	0.	.0	.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	
31 S DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	.3	.2	0.	.0	.3	.3	.1	.3	.0	.0	1.5	.1	.0	.1	0.	
33 TEXAS	.0	.2	.0	.0	.0	.0	.0	.0	.1	.3	.0	.2	.0	.0	.0	
34 VIRGINIA	.0	.0	0.	.3	.0	.0	.0	.0	0.	.	.0	.0	.0	0.	0.	
35 W VIRGINIA	.0	0.	0.	1.0	.0	.0	.0	.0	0.	.0	.1	0.	.2	0.	0.	
36 WISCONSIN	.0	.0	0.	.0	.0	.0	.3	.2	.1	0.	.0	.0	.1	1.4		.1
37 MANITOBA	.0	0.	0.	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0	.0		.1
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.0	.0	.0	
39 ONTARIO	.0	0.	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.2	.0
40 QUEBEC	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.8	.0	.0
41 NEWFOUND	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO2)	9.0	2.5	.0	4.9	2.8	7.0	12.1	10.9	2.8	1.3	14.0	3.8	4.5	4.3	1.5	

TABLE A-5 (continued)

EMITTER REGION	TOTAL 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	CONTRIBUTIONS TO SO2 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS														
1 ALABAMA	3.5	.1	0.	.0	.0	.0	0.	.0	.2	0.	.2	.1	.0	.0	.1
2 ARKANSAS	.0	.1	0.	.0	.0	.0	0.	.0	.0	0.	.0	.0	.0	.0	.0
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	.0	.0	0.	0.	.0	.1	0.	.0	.1	0.	.0	0.	.2	.0	.0
5 FLORIDA	.1	.0	0.	.0	.0	.0	0.	.0	.0	0.	.1	.0	.0	.0	.5
6 GEORGIA	.0	.0	0.	.0	.0	.0	0.	.0	.5	0.	.1	.0	.0	.0	.5
7 ILLINOIS	.4	1.5	0.	0.	.1	.0	0.	.3	.0	0.	1.3	.0	.4	.0	.0
8 INDIANA	.1	.0	0.	0.	.1	.1	0.	.5	.2	0.	.4	0.	.8	.1	.0
9 IOWA	.0	.1	0.	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
10 KANSAS	.0	.1	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 KENTUCKY	.2	.0	0.	0.	.1	.0	0.	.3	.4	0.	2.9	0.	.5	.0	.1
12 LOUISIANA	.6	.1	0.	.0	.0	.0	.0	.0	.0	0.	.0	.1	.0	.0	.0
13 MAINE	0.	0.	0.	0.	.1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 MICHIGAN	0.	.0	0.	0.	.2	.0	0.	1.6	.1	0.	2.3	0.	1.0	.2	.0
15 MINNESOTA	.0	.0	0.	.0	.0	.0	0.	.0	.0	.0	.1	.0	.0	.0	.0
16 MISS.	.8	.0	0.	.0	.0	.0	0.	.0	.0	0.	.0	.0	.0	.0	.0
17 MISSOURI	.1	4.2	0.	.0	.0	.0	0.	.1	.0	.0	.3	.1	.1	.0	.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	.4	.0	0.	.0	0.	0.	0.	0.	0.	.4	0.
21 NEW JERSEY	0.	0.	0.	0.	.0	.7	0.	.1	.0	0.	0.	0.	.0	.1	.0
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	0.	.4	.4	0.	2.1	.0	0.	0.	0.	.2	1.1	.0
24 N CAROLINA	.0	.0	0.	0.	.0	.0	0.	.0	3.8	0.	.0	0.	.0	.0	.5
25 N DAKOTA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
26 OHIO	.0	.0	0.	0.	.4	.2	0.	1.4	.4	0.	.7	0.	3.8	.2	.0
27 OKLAHOMA	.0	.1	0.	.0	.0	.0	.0	.0	.0	.0	.0	.4	.0	.0	.0
28 PENN	.0	.0	0.	0.	.5	.6	0.	1.7	.3	0.	.1	0.	7.2	.1	.0
29 RI/MA/CT	0.	0.	0.	0.	.0	.0	0.	.0	0.	0.	0.	0.	0.	.3	0.
30 S CAROLINA	.0	.0	0.	0.	.0	.0	0.	.0	.8	0.	.0	0.	.0	.0	.2
31 S DAKOTA	.0	.0	0.	.0	.0	.0	.0	.0	.0		.0	.0	.0	.0	.0
32 TENNESSEE	.4	.1	0.	.0	.0	.0	0.	.0	.4		.2	.0	.0	.0	.1
33 TEXAS	.0	.1	0.	.1	.0	.0	.2	.0	.0	.0	.0	.4	.0	.0	.0
34 VIRGINIA	.0	.0	0.	.0	.0	.1	0.	.0	1.4	0.	.0	0.	.2	.0	.1
35 W VIRGINIA	.0	.0	0.	0.	.3	.2	0.	1.0	.5	0.	1.4	0.	.4	.2	.0
36 WISCONSIN	.0	.0	0.	0.	.0	.0	0.	.2	.0	0.	.3	.0	.1	.0	.0
37 MANITOBA	.0	.0	0.	.0	.0	.0	0.	.0	.0	.0	.0	0.	.0	.0	.0
38 N BRUNS	0.	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 ONTARIO	.0	0.	0.	0.	.4	.0	0.	1.4	.0	.0	.1	0.	.1	.1	.0
40 QUEBEC	0.	0.	0.	0.	.3	0.	0.	.1	0.	0.	0.	0.	0.	0.	0.
41 NFLD/LAND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO2)	8.5	8.8	0	.2	3.8	2.5	.2	11.5	9.4	.2	19.2	1.1	19.5	3.3	3.4

TABLE A-5 (concluded)

EMITTER REGION	TOTAL 31	CONTRIBUTIONS TO SO2 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS 32	33	34	35	36	37	38	39	40	41
1 ALABAMA	0.	2.0	.1	.1	.1	.0	0.	.0	.2	.1	0.
2 ARKANSAS	0.	.0	.0	.0	.0	.0	0.	.0	.0	0.	.0
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	.0	.0	.0	.0	0.	0.	.0	.0	.0	.0
5 FLORIDA	0.	.0	.0	.0	.0	.0	0.	.0	.0	0.	
6 GEORGIA	0.	1.0	.0	.1	.1	.0	0.	.0	.0	0.	
7 ILLINOIS	0.	1.0	.0	.1	.3	.3	0.	.1	1.5	.4	.0
8 INDIANA	0.	.6	.0	.0	1.0	.0	0.	.1	1.7	.5	.0
9 IOWA	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0	.0
10 KANSAS	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 KENTUCKY	0.	1.6	.0	.0	1.5	.0	0.	.1	.6	.2	.0
12 LOUISIANA	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0	.0
13 MAINE	0.	0.	0.	0.	0.	0.	0.	.0	0.	.0	.0
14 MICHIGAN	0.	.0	0.	.2	.0	.1	0.	.3	.0	.1	.0
15 MINNESOTA	.0	.0	.0	.0	.0	1.7	.0	.0	.0	.1	.0
16 MISS.	0.	.1	.0	.0	.0	.0	0.	.0	.0	.0	.0
17 MISSOURI	.0	.1	.0	.0	.1	.1	.0	.0	.3	.1	.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	.1	0.	.0	.0
21 NEW JERSEY	0.	.0	0.	.0	.0	0.	0.	.0	.0	.0	.0
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	.0	.0	0.	0.	.1	.0	.0	.0
24 N CAROLINA	0.	.1	0.	.0	.1	0.	0.	.0	.0	0.	
25 N DAKOTA	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26 OHIO	0.	.1	0.	.0	.7	0.	0.	.1	.1	.0	.0
27 OKLAHOMA	.0	.0	.0	.0	.0	0.	0.	.0	.0	.0	.0
28 PENN	0.	.0	0.	.7	1.1	0.	0.	.1	.1	.2	.0
29 RI/MA/CT	0.	0.	0.	0.	0.	0.	0.	.1	0.	.0	.0
30 S CAROLINA	0.	.1	0.	.1	.0	0.	0.	.0	.0	.0	0.
31 S DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	0.	.3	.0	.0	.2	0.	0.	.0	.1	.1	.0
33 TEXAS	.0	.0	.0	.0	.0	0.	0.	.0	.0	.0	.0
34 VIRGINIA	0.	.0	.0	.2	.0	0.	0.	.0	.0	.0	.0
35 W VIRGINIA	0.	.0	0.	.0	.1	0.	0.	.2	.0	.1	.0
36 WISCONSIN	0.	.0	.0	.0	.1	.2	0.	.0	.1	.0	.0
37 MANITOBA	.0	.0	0.	.0	.0	.0	.1	.0	.1	.0	.0
38 N ONTS	0.	0.	0.	0.	0.	0.	0.	.1	.0	.2	.0
39 ONTARIO	0.	.0	0.	.1	.1	0.	0.	.0	.2	.4	.2
40 QUEBEC	0.	0.	0.	0.	0.	0.	0.	.0	.2	.4	.2
41 NFLD/LAB	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO2)	2	10.1	4.8	9.8	14.1	4.2	2	4.4	11.1	20.1	1.0

TABLE A-6. AUGUST 1977 SO_2 WET DEPOSITIONS (kton)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO2 WET DEPOSITIONS WITHIN RECEPTOR REGIONS														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 ALABAMA	13.3	.5	0.	.1	.7	3.6	.5	1.2	.0	.0	3.1	.2	.0	.2	0.	
2 ARKANSAS	.0	.5	0.	.0	.0	.0	.1	.1	.0	.0	.1	.0	.0	.0	0.	
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4 DEL/MD/DC	0.	0.	0.	3.7	.0	.0	.0	0.	0.	0.	0.	0.	0.	0.	0.	
5 FLORIDA	.5	.1	0.	.0	1.1	.7	.0	.0	.0	.0	.1	.0	.0	.0	0.	
6 GEORGIA	.8	.0	0.	.1	.1	10.3	.0	.1	.0	.0	.7	.0	.0	.0	0.	
7 ILLINOIS	.0	.0	0.	.2	.0	.0	25.4	9.2	2.4	0.	3.6	0.	.1	1.5	.0	
8 INDIANA	.0	.0	0.	.6	.0	.0	1.4	19.3	.1	0.	5.4	0.	.2	2.7	0.	
9 IOWA	.0	.0	0.	.0	.0	.0	.7	.1	2.7	.0	.0	0.	.0	.2	.0	
10 KANSAS	.0	.0	.0	.0	.0	.0	.1	.0	.2	.3	.0	0.	.0	.0	.0	
11 KENTUCKY	.0	.0	0.	.5	.0	.1	.0	5.0	.0	0.	21.3	0.	.3	.1	0.	
12 LOUISIANA	.1	.0	.0	.0	.1	.0	.3	.1	.0	.0	.2	4.7	.0	.0	0.	
13 MAINE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.1	0.	0.	
14 MICHIGAN	0.	0.	0.	.1	0.	.0	.0	.1	.0	0.	0.	0.	.6	.4	.0	
15 MINNESOTA	.0	.0	0.	.0	0.	.0	.3	.1	.3	.0	.0	0.	.0	.3	1.0	
16 MISS.	.2	.3	0.	.0	.0	.0	.1	.1	.0	.0	.2	.3	.0	.0	0.	
17 MISSOURI	.0	.0	0.	.1	.0	.0	7.7	1.7	2.5	1.4	.3	.0	.0	.2	.0	
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
19 NEBRASKA	.0	.0	.0	.0	0.	0.	.0	.0	.1	.0	.0	0.	.0	.0	.0	
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.4	0.	0.	
21 NEW JERSEY	0.	0.	0.	.1	.0	.0	0.	0.	0.	0.	0.	0.	.1	0.	0.	
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
23 NEW YORK	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	1.4	0.	0.	
24 N CAROLINA	.0	0.	0.	.2	.0	.1	.0	.0	.0	0.	.0	0.	.0	0.	0.	
25 N DAKOTA	0.	.0	.0	.0	0.	0.	.0	.0	.0	.0	.0	0.	.0	.0	.0	
26 OHIO	.0	0.	0.	2.3	.0	.0	.0	.1	0.	0.	.6	0.	.8	.0	0.	
27 OKLAHOMA	.0	.1	0.	.0	.0	.0	.1	.0	.2	.6	.0	.0	.0	.0	.0	
28 PENN.	.0	0.	0.	3.0	.0	.0	0.	0.	0.	0.	.0	0.	.8	0.	0.	
29 RI/MA/CT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.2	0.	0.	
30 S CAROLINA	.0	0.	0.	.0	.0	.4	.0	.0	0.	.0	.1	0.	.0	0.	0.	
31 S DAKOTA	0.	0.	0.	.0	0.	0.	.0	.0	.0	.0	.0	0.	.0	.0	.0	
32 TENNESSEE	.1	.3	0.	.1	.0	.2	.2	1.2	.0	.0	5.4	.0	.0	.2	0.	
33 TEXAS	.0	.0	.0	.0	.0	.0	.2	.0	.3	.7	.0	.0	.0	.0	.0	
34 VIRGINIA	.0	0.	0.	1.9	.0	.0	.0	0.	0.	0.	.0	0.	.0	0.	0.	
35 W VIRGINIA	.0	0.	0.	3.9	.0	.0	0.	0.	0.	0.	.1	0.	.6	0.	0.	
36 WISCONSIN	.0	.0	0.	.0	.0	.0	.6	.2	.3	0.	.0	0.	.1	1.6	.1	
37 MANITOBA	0.	0.	0.	.0	0.	.0	.0	0.	.0	0.	.0	0.	.0	.0	.0	
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.1	0.	0.	
39 ONTARIO	.0	0.	0.	.0	.0	.0	.0	.0	0.	0.	.0	0.	.9	1.4	.0	
40 QUEBEC	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.9	0.	0.	
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
TOTAL (KTON SO2)	15.0	3.2	.0	17.0	2.0	15.8	38.1	38.4	9.2	3.1	41.1	5.6	13.8	14.4	2.1	

TABLE A-6 (continued)

EMITTER REGION	TOTAL 16	CONTRIBUTIONS TO SO2 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 17	18	19	20	21	22	23	24	25	26	27	28	29	30
1 ALABAMA	3.0	.3	0.	0.	.0	.0	0.	.0	1.2	0.	.8	.0	.2	.0	.3
2 ARKANSAS	.0	.3	0.	.0	.0	.0	0.	.0	.0	0.	.0	.0	.0	.0	.0
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	.0	0.	0.	.0	.6	0.	.2	.0	0.	0.	0.	1.3	.2	.0
5 FLORIDA	.1	.0	0.	.0	.0	.0	0.	.0	.1	0.	.0	.0	.0	.0	.1
6 GEORGIA	.0	.0	0.	0.	.0	.0	0.	.0	2.7	0.	.3	.0	.1	.0	1.3
7 ILLINOIS	.0	1.6	0.	0.	.1	.1	0.	.6	.0	0.	3.1	.0	1.0	.1	.0
8 INDIANA	.0	.0	0.	0.	.2	.1	0.	1.3	.1	0.	11.7	0.	2.3	.2	.0
9 IOWA	.0	.1	0.	.0	.0	.0	0.	.0	.0	.0	.1	.0	.0	.0	.0
10 KANSAS	.0	.2	0.	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
11 KENTUCKY	.1	.0	0.	0.	.1	.1	0.	.6	.3	0.	12.4	0.	1.6	.1	.0
12 LOUISIANA	.6	.5	0.	.0	.0	.0	.0	.0	.0	0.	.0	.1	.0	.0	.0
13 MAINE	0.	0.	0.	0.	.3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 MICHIGAN	0.	.0	0.	0.	.4	.1	0.	2.5	.0	0.	3.8	0.	2.0	.1	.0
15 MINNESOTA	.0	.0	0.	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
16 MISS.	1.1	.1	0.	.0	.0	.0	0.	.0	.0	0.	.0	.0	.0	.0	.0
17 MISSOURI	.0	10.2	0.	.0	.0	.0	0.	.1	.0	0.	.6	.2	.2	.0	.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	0.	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	0.
20 NH/VT	0.	0.	0.	0.	1.9	.0	0.	.0	0.	0.	0.	0.	0.	.9	0.
21 NEW JERSEY	0.	0.	0.	0.	.1	3.4	0.	.7	.0	0.	0.	0.	.3	.6	.0
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	0.	2.1	1.4	0.	6.7	.0	0.	0.	0.	.5	4.0	0.
24 N CAROLINA	0.	.0	0.	0.	.0	.0	0.	.0	7.8	0.	.0	0.	.1	.0	.4
25 N DAKOTA	0.	.0	.0	.0	.0	.0	0.	.0	0.	.1	.0	.0	.0	.0	0.
26 OHIO	0.	.0	0.	0.	.9	.4	0.	4.7	.1	0.	15.4	0.	12.2	.5	.0
27 OKLAHOMA	.0	.4	0.	.0	.0	.0	0.	.0	.0	0.	.0	.9	.0	.0	.0
28 PENN.	0.	0.	0.	0.	1.4	2.3	0.	6.0	.0	0.	.3	0.	26.8	1.5	.0
29 RI/MA/CT	0.	0.	0.	0.	.1	.0	0.	.1	0.	0.	0.	0.	0.	1.5	0.
30 S CAROLINA	.0	.0	0.	0.	.0	.0	0.	.0	1.6	0.	.0	0.	.0	.0	.1
31 S DAKOTA	0.	.0	.0	.0	.0	0.	0.	.0	0.	.0	.0	.0	.0	.0	0.
32 TENNESSEE	.5	.2	0.	0.	.0	.0	0.	.1	1.4	0.	.9	0.	.2	.0	.1
33 TEXAS	.0	.5	0.	.1	.0	.0	.1	.0	.0	.0	.0	.8	.0	.0	.0
34 VIRGINIA	0.	.0	0.	.0	.0	.3	0.	.1	1.6	0.	.0	0.	.6	.1	.0
35 W VIRGINIA	0.	0.	0.	0.	.8	.7	0.	3.1	.0	0.	4.0	0.	16.0	.8	.0
36 WISCONSIN	.0	.0	0.	0.	.1	.0	0.	.2	.0	0.	.5	0.	.3	.0	.0
37 MANITOBA	0.	.0	0.	0.	.0	.0	0.	.0	.0	.0	.0	0.	.0	.0	.0
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 ONTARIO	0	0.	0.	0.	.9	.1	0.	1.9	.0	0.	.0	0.	.4	.2	.0
40 QUEBEC	0.	0.	0.	0.	.7	0.	0.	.3	0.	0.	0.	0.	0.	0.	0.
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO2)	5.4	14.5	.0	.3	10.3	9.4	.1	29.4	16.8	.1	59.2	2.1	66.1	10.9	6.6

TABLE A-6 (concluded)

EMITTER REGION	TOTAL 31	CONTRIBUTIONS TO SO2 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 32	33	34	35	36	37	38	39	40	41
1 ALABAMA	0.	7.4	.0	.8	.8	.0	0.	.0	.3	.1	0.
2 ARKANSAS	0.	.1	.0	.0	.0	.0	0.	.0	.0	.0	0.
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	.0	0.	.9	.1	0.	0.	.0	.0	.0	0.
5 FLORIDA	0.	.1	.0	.0	.0	.0	0.	.0	.0	.0	0.
6 GEORGIA	0	2.9	.0	.7	.3	0.	0.	.0	.1	.0	0.
7 ILLINOIS	0.	.3	.0	.2	.5	2.2	0.	.1	1.3	.2	0.
8 INDIANA	0.	.2	0.	.6	2.2	.3	0.	.1	2.5	.4	.0
9 IOWA	.0	.0	.0	.0	.0	1.2	0.	.0	.2	.0	.0
10 KANSAS	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0	.0
11 KENTUCKY	0.	1.6	0.	1.6	4.2	0.	0.	.1	.7	.2	0.
12 LOUISIANA	.0	.1	1.3	.0	.0	.0	0.	.0	.0	.0	0.
13 MAINE	0.	0.	0.	0.	0.	0.	0.	.7	0.	.0	.0
14 MICHIGAN	0.	.0	0.	.1	.7	.1	0.	.4	8.6	1.0	.0
15 MINNESOTA	.0	.0	.0	.0	.0	2.2	0.	.0	.4	.1	.0
16 MISS.	0.	.2	.0	.0	.0	.0	0.	.0	.0	.0	0.
17 MISSOURI	.0	.0	.1	.0	.1	.7	0.	.0	.3	.0	.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0	0.
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	.3	0.	.0	.0
21 NEW JERSEY	0.	.0	0.	.0	.0	0.	0.	.0	0.	.0	0.
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	.0	.0	0.	0.	.4	.7	.3	.0
24 N CAROLINA	0.	.2	0.	2.2	.3	0.	0.	.0	.0	.0	0.
25 N DAKOTA	.2	0.	.0	.0	.0	.0	.0	.0	.0	.0	0.
26 OHIO	0.	.0	0.	1.3	11.5	0.	0.	.2	2.5	.3	.0
27 OKLAHOMA	.0	.0	.0	.0	.0	.1	0.	.0	.0	.0	0.
28 PENN.	0.	.0	0.	.6	2.9	0.	0.	.3	.8	.2	0.
29 RI/MA/CT	0.	0.	0.	0.	0.	0.	0.	.2	0.	.0	0.
30 S CAROLINA	0.	.0	0.	.2	.0	0.	0.	.0	.0	.0	0.
31 S DAKOTA	.0	0.	.0	.0	.0	.0	0.	.0	.0	.0	0.
32 TENNESSEE	0.	8.7	.0	1.6	1.0	.0	0.	.0	.1	.1	0.
33 TEXAS	.0	.0	5.3	.0	.0	.1	0.	.0	.0	.0	0.
34 VIRGINIA	0.	.0	0.	9.4	1.0	0.	0.	.0	.0	.0	0.
35 W VIRGINIA	0.	.0	0.	2.3	18.1	0.	0.	.2	.3	.0	0.
36 WISCONSIN	0.	.0	0.	.0	.1	5.9	0.	.1	.9	.1	.0
37 MANITOBA	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	.0
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	1.3	0.	.1	.0
39 ONTARIO	0.	.0	0.	.0	.0	.0	0.	.9	8.5	2.1	.0
40 QUEBEC	0.	0.	0.	0.	0.	0.	0.	.7	.3	4.3	.0
41 NFWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO2)	.2	21.9	6.8	22.6	44.1	12.8	.0	5.6	28.5	9.5	.0

TABLE A-7. AUGUST 1977 $SO_4^=$ DRY DEPOSITIONS (kton)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO4 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 ALABAMA	14.5	2.0	0.	.0	3.8	6.3	.7	1.1	.1	.2	2.4	1.4	.1	.3	0.	
2 ARKANSAS	.0	.7	0.	.0	.0	.0	.1	.0	.0	.0	.1	.1	.0	.0	.0	
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4 DEL/MD/DC	.0	.0	0.	.9	.1	.2	.0	0.	0.	0.	.0	.0	.1	0.	.0	
5 FLORIDA	1.3	.1	0.	.0	1.2	1.1	.0	.0	.0	.1	.1	.2	.0	.0	0.	
6 GEORGIA	2.2	.2	0.	.1	.7	6.6	.1	.1	.0	.0	1.3	.1	.1	.0	0.	
7 ILLINOIS	1.6	3.8	0.	.7	.4	1.0	8.7	5.6	.4	.0	3.8	1.1	.6	1.9	.0	
8 INDIANA	1.8	.2	0.	1.1	.4	1.3	.9	5.4	.0	0.	5.4	.2	.6	1.2	0.	
9 IOWA	.1	.2	.0	.0	.0	.1	.8	.4	1.5	.1	.1	.1	.1	.5	.2	
10 KANSAS	.0	.0	.0	.0	.0	.0	.1	.0	.1	.2	.0	.0	.0	.0	.0	
11 KENTUCKY	1.7	.1	0.	1.2	.5	2.5	.2	1.7	.0	0.	7.8	.2	.5	.2	0.	
12 LOUISIANA	.4	2.7	.0	.0	.7	.4	.5	.2	.1	.3	.3	4.9	.0	.1	.0	
13 MAINE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.5	0.	0.	
14 MICHIGAN	.0	0.	0.	.3	.2	.7	.1	.5	.0	0.	.3	0.	1.7	3.2	.0	
15 MINNESOTA	.0	.3	.0	.0	.0	.0	.4	.2	.4	.0	.1	.0	.2	1.3	1.0	
16 MISS.	.5	.6	.0	.0	.4	.3	.1	.1	.0	.1	.2	.6	.0	.0	.0	
17 MISSOURI	.3	1.7	0.	.5	.3	.4	3.9	1.9	.7	.8	1.1	.7	.1	.3	.0	
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.3	0.	0.	
21 NEW JERSEY	.0	0.	0.	.1	.0	.1	0.	0.	0.	0.	0.	0.	.1	0.	0.	
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
23 NEW YORK	0.	0.	0.	.1	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.	
24 N CAROLINA	.0	.0	0.	.3	.3	1.0	.0	.0	.0	0.	.1	.0	.1	0.	0.	
25 N DAKOTA	.0	.0	.0	.0	0.	.0	.0	.0	.1	.0	.0	0.	.0	.0	.1	
26 OHIO	.0	.0	0.	1.8	.3	.9	.0	.1	0.	0.	1.2	.0	2.2	.1	0.	
27 OKLAHOMA	.0	.1	.0	.0	.0	.0	.1	.0	.1	.5	.0	.0	.0	.0	.0	
28 PENN.	.0	0.	0.	2.0	.3	.9	.0	.0	0.	0.	.0	0.	1.6	0.	0.	
29 RI/MA/CT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.	
30 S CAROLINA	.2	.0	0.	.1	.3	1.5	.0	.0	0.	.0	.3	.0	.0	.0	0.	
31 S DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0	
32 TENNESSEE	1.4	1.0	0.	.2	.3	1.6	.4	.8	.0	.0	2.8	.7	.1	.3	0.	
33 TEXAS	.0	.8	.2	.0	.0	.0	.2	.1	.4	1.8	.0	.4	.0	.0	.1	
34 VIRGINIA	.0	.0	0.	.9	.3	.7	.0	.0	0.	0.	.1	.0	.0	0.	0.	
35 W VIRGINIA	.0	0.	0.	2.2	.2	1.0	.0	.0	0.	0.	.1	0.	1.4	0.	0.	
36 WISCONSIN	.4	.1	0.	.1	.1	.4	.5	.8	.2	0.	.4	.0	.7	2.5	.0	
37 MANITOBA	.0	0.	0.	.0	.0	.0	.0	.0	.0	0.	.0	0.	.0	.1	.2	
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.	0.	
39 ONTARIO	.0	0.	0.	.2	.0	.1	.0	.0	.0	0.	.0	0.	2.4	.2	.0	
40 QUEBEC	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.7	0.	0.	
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
TOTAL (KTON SO4)	26.7	14.6	.2	12.8	10.9	29.4	17.9	19.2	4.5	4.1	28.0	10.9	14.0	12.3	1.8	

TABLE A-7 (continued)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO4 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1 ALABAMA	10.2	1.4	0.	.0	.0	.0	0.	.1	.8	0.	1.0	.7	.1	.0	.6
2 ARKANSAS	.1	.3	0.	.0	.0	.0	0.	.0	.0	0.	.0	.1	.0	.0	.0
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	.0	.0	0.	0.	.1	.2	0.	.2	.5	0.	.0	0.	.3	.1	.2
5 FLORIDA	.8	.1	0.	.0	.0	.0	0.	.2	1.8	0.	.5	.0	.1	.0	1.7
6 GEORGIA	.4	.1	0.	.0	.0	.0	0.	.0	.1	0.	.0	.2	.0	.0	.4
7 ILLINOIS	2.7	3.2	0.	0.	.4	.3	0.	2.2	.5	0.	4.3	.1	2.7	.4	.3
8 INDIANA	1.3	.2	0.	0.	.5	.4	0.	2.2	1.1	0.	7.1	0.	3.2	.4	.4
9 IOWA	.1	.4	0.	.0	.1	.0	0.	.3	.0	0	.3	.1	.2	.1	.0
10 KANSAS	.0	.2	0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 KENTUCKY	1.8	.0	0.	0.	.3	.2	0.	1.0	1.8	0.	4.0	0.	1.8	.2	.7
12 LOUISIANA	2.1	.4	0.	.1	.0	.0	.0	.1	.0	0.	.1	.6	.0	.0	.1
13 MAINE	0.	0.	0.	0.	.1	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 MICHIGAN	0.	.0	0.	0.	1.1	.2	0.	4.5	1.1	0.	3.3	0.	2.9	1.2	.4
15 MINNESOTA	.1	.2	0.	.0	.2	.0	0.	.6	.1	.0	.4	.1	.3	.1	.0
16 MISS.	1.8	.2	0.	.0	.0	.0	0.	.0	.0	0.	.0	.2	.0	.0	.1
17 MISSOURI	.8	7.1	0.	.0	.1	.1	0.	.5	.2	.0	1.4	1.0	.9	.2	.2
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	.3	.0	0.	.0	.0	0.	.0	0.	.0	.0	.0
21 NEW JERSEY	0.	0.	0.	0.	.0	.6	0.	.2	.3	0.	0.	0.	0.	.2	.1
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	0.	.9	.5	0.	2.3	.2	0.	.0	0.	.0	1.6	.0
24 N CAROLINA	.0	.0	0.	0.	.1	.1	0.	.3	4.8	0.	.0	0.	.4	.1	1.4
25 N DAKOTA	.0	.0	.0	.1	.0	.0	.0	.0	.0	0.	.0	0.	.0	.0	.0
26 OHIO	.0	.0	0.	0.	1.3	.4	0.	4.0	2.4	.2	4.6	0.	6.8	1.1	.7
27 OKLAHOMA	.0	.4	0.	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0	.0	.0
28 PENN.	.0	.0	0.	0.	1.2	1.1	0.	3.2	1.9	0.	.1	0.	6.4	.9	.4
29 RI/MA/CT	0.	0.	0.	0.	.0	.0	0.	.0	0.	0.	0.	0.	0.	.2	0.
30 S CAROLINA	.0	.0	0.	0.	.0	.1	0.	.1	1.8	0.	.0	.0	.1	.0	2.5
31 S DAKOTA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	2.3	.4	0.	.0	.1	.0	0.	.2	1.3	0.	.6	.1	.3	.0	.2
33 TEXAS	.3	.8	0.	.8	.0	.0	.4	.0	.0	.0	.0	2.1	.0	.0	.0
34 VIRGINIA	.0	.0	0.	0.	.1	.2	0.	.3	2.7	0.	.0	0.	.7	.3	.7
35 W VIRGINIA	.0	.0	0.	0.	1.2	.5	0.	2.7	2.4	0.	.7	0.	5.8	.7	.7
36 WISCONSIN	.1	.0	0.	0.	.5	.1	0.	1.4	.4	0.	1.4	.0	.9	.3	.1
37 MANITOBA	.0	.0	0.	.0	.0	.0	0.	.0	.0	0.	.0	0.	.0	.0	.0
38 N BRUNS	0.	0.	0.	0.	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 ONTARIO	.0	0.	0.	0.	1.4	.2	0.	3.5	.1	.0	.2	0.	1.0	.5	.0
40 QUEBEC	0.	0.	0.	0.	.5	.0	0.	.1	0.	0.	0.	0.	.0	.1	0.
41 NFWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO4)	29.9	16.1	.0	1.2	10.6	5.3	.5	30.0	26.6	.3	30.1	5.6	35.4	9.0	11.9

TABLE A-7 (concluded)

EMITTER REGION	TOTAL 31	CONTRIBUTIONS TO SO4 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS 32	33	34	35	36	37	38	39	40	41
1 ALABAMA	0.	6.7	1.0	.4	.3	.0	0.	.2	1.2	1.2	0.
2 ARKANSAS	0.	.1	.2	.0	.0	.0	0.	.0	.0	.1	.0
3 COLORADO	0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	.0	.0	.7	.1	0.	0.	.1	.0	.0	.0
5 FLORIDA	0.	.4	.1	.0	.0	.0	0.	.0	.0	.0	0.
6 GEORGIA	0.	2.9	.1	.5	.4	.0	0.	.1	.2	.1	0.
7 ILLINOIS	0.	3.1	.2	1.1	1.9	.4	0.	.7	2.8	4.3	.3
8 INDIANA	0.	3.2	.0	2.1	4.0	.0	0.	1.1	2.6	3.4	.1
9 IOWA	.0	.1	.0	.0	.1	.7	.0	.1	.9	.4	.0
10 KANSAS	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 KENTUCKY	0.	4.8	.0	3.1	4.3	.0	0.	.6	1.5	2.2	.0
12 LOUISIANA	.0	.2	3.4	.0	.1	.0	0.	.0	.2	.4	.0
13 MAINE	0.	0.	0.	0.	0.	0.	0.	.0	0.	.1	.0
14 MICHIGAN	0.	.1	0.	1.5	2.3	.1	0.	1.0	8.4	10.9	1.3
15 MINNESOTA	.0	.1	.0	.3	.1	2.4	.0	.2	2.7	1.7	.2
16 MISS.	0.	.3	.2	.0	.0	.0	0.	.0	.1	.2	.0
17 MISSOURI	.0	.5	.6	.4	.7	.2	.0	.1	.6	1.1	.1
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	.0	.0	.1	.0
21 NEW JERSEY	0.	.0	0.	.0	.0	0.	0.	.1	0.	.0	.0
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	.1	.0	0.	0.	1.4	.3	1.6	.2
24 N CAROLINA	0.	.3	0.	1.8	.6	0.	0.	.0	.0	.0	0.
25 N DAKOTA	.4	.0	.0	.0	.0	.0	.1	.0	.1	.0	.0
26 OHIO	0.	.5	0.	3.5	7.7	0.	0.	2.7	1.3	1.7	.1
27 OKLAHOMA	.0	.0	.1	.0	.0	.1	0.	.0	.0	.0	.0
28 PENN.	0.	.1	0.	2.5	1.5	0.	0.	1.9	.2	.7	.1
29 RI/MA/CT	0.	0.	0.	0.	0.	0.	0.	.2	0.	.0	.0
30 S CAROLINA	0.	.5	.0	.5	.2	0.	0.	.0	.0	.0	0.
31 S DAKOTA	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 TENNESSEE	0.	4.8	.2	1.3	1.0	.0	0.	.2	.5	1.3	.0
33 TEXAS	.2	.0	4.8	.0	.0	.2	.0	.0	.2	.4	.0
34 VIRGINIA	0.	.2	.0	3.4	.8	0.	0.	.0	.0	.0	.0
35 W VIRGINIA	0.	.1	0.	4.3	6.9	0.	0.	2.0	.1	.2	.0
36 WISCONSIN	0.	.3	.0	.4	.5	2.1	0.	.6	4.2	4.3	.6
37 MANITOBA	.0	.0	0.	.0	.0	.1	.1	.0	.3	.1	.0
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	.9	0.	.5	.1
39 ONTARIO	0.	.0	0.	.5	.3	.0	.0	2.5	11.5	21.5	2.3
40 QUEBEC	0.	0.	0.	0.	0.	0.	0.	1.9	1.2	22.7	2.9
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO4)	.6	29.5	12.9	28.9	33.6	6.4	.2	20.5	41.6	81.4	8.6

TABLE A-8. AUGUST 1977 $SO_4^=$ WET DEPOSITIONS (kton)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO4 WET DEPOSITIONS WITHIN RECEPTOR REGIONS														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 ALABAMA	23.6	1.7	0.	.1	3.2	14.4	3.9	4.6	.2	.6	10.7	1.2	.6	.4	0.
2 ARKANSAS	.0	.7	0.	.0	.0	.0	.4	.2	.0	.2	.2	.0	.0	.0	0.
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	0.	0.	3.7	.0	.2	.0	0.	0.	0.	.0	0.	.1	0.	0.
5 FLORIDA	2.3	.5	0.	.0	1.3	3.1	.2	.1	.0	.3	.8	.2	.0	.0	0.
6 GEORGIA	2.0	.1	0.	.3	.2	15.8	.1	.2	.0	.1	1.9	.0	.5	.0	0.
7 ILLINOIS	.4	1.1	0.	1.7	.1	.7	23.1	15.7	3.1	0.	7.5	0.	1.3	2.9	.0
8 INDIANA	.4	.0	0.	3.3	.0	1.1	2.7	15.3	.1	0.	8.7	0.	1.5	4.3	0.
9 IOWA	.0	.0	0.	.0	.0	.1	2.1	.5	3.1	.1	.2	0.	.2	.5	.4
10 KANSAS	.0	.0	.0	.0	.0	.0	.2	.1	.3	.3	.0	0.	.0	.0	.1
11 KENTUCKY	.3	.0	0.	2.7	.0	1.1	.0	6.0	.0	0.	21.2	0.	1.8	.3	0.
12 LOUISIANA	.8	4.5	.0	.1	1.0	.7	2.7	.8	.3	1.0	1.1	6.4	.0	.0	0.
13 MAINE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.1	0.	0.
14 MICHIGAN	0.	0.	0.	.5	0.	.4	.3	.2	.0	0.	.1	0.	4.6	6.2	.0
15 MINNESOTA	.0	.2	0.	.0	0.	.0	1.1	.2	.8	.0	.1	0.	.9	1.4	1.6
16 MISS.	1.1	.9	0.	.0	.3	.5	.6	.2	.1	.2	.9	.4	.0	.0	0.
17 MISSOURI	.1	.2	0.	1.3	.0	.3	12.8	4.4	4.2	2.0	1.8	.0	.2	.3	.2
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	0.	0.	0.	0.	0.	0.	.1	0.	0.	0.	0.
20 NH/VT	0.	0.	0.	0.	0.	0.	.0	.0	.1	.1	.0	0.	.0	.0	.0
21 NEW JERSEY	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.5	0.	0.
22 NEW MEXICO	0.	0.	0.	.1	.0	.1	0.	0.	0.	0.	.0	0.	.2	0.	0.
23 NEW YORK	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 N CAROLINA	.0	0.	0.	.2	0.	0.	0.	0.	0.	0.	0.	0.	2.9	0.	0.
25 N DAKOTA	0.	.0	.0	1.0	.0	.9	.0	.0	.0	0.	.2	0.	.2	0.	0.
26 OHIO	.0	0.	0.	.0	0.	0.	.1	.0	.2	.0	.0	0.	.0	.0	.1
27 OKLAHOMA	.0	.2	0.	5.2	.0	.4	.0	.2	0.	0.	1.5	0.	2.6	.1	0.
28 PENN.	.0	0.	0.	.0	.0	.0	.4	.2	.6	1.0	.0	.0	.0	.0	.2
29 RI/MA/CT	0.	0.	0.	5.4	.1	.6	0.	0.	0.	0.	.2	0.	2.7	0.	0.
30 S CAROLINA	.1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
31 S DAKOTA	0.	0.	0.	.2	.0	2.4	.0	.0	0.	.0	.7	0.	.1	0.	0.
32 TENNESSEE	.8	.3	0.	.0	0.	0.	.0	.0	.1	.0	.0	0.	.0	.0	.0
33 TEXAS	.0	1.6	.2	.5	.0	2.0	.6	2.9	.0	.1	8.3	.0	.4	.4	0.
34 VIRGINIA	.0	0.	0.	.0	.0	.0	1.4	.2	1.6	4.9	.1	1.3	.0	.1	.4
35 W VIRGINIA	.0	0.	0.	4.1	.0	.5	.0	.0	0.	0.	.4	0.	.1	0.	0.
36 WISCONSIN	.1	.0	0.	7.4	.0	.8	0.	0.	0.	0.	.3	0.	1.5	0.	0.
37 MANITOBA	0.	0.	0.	.2	.0	.3	1.2	.7	.9	0.	.2	0.	1.4	3.8	.1
38 N BRUNS	0.	0.	0.	.0	0.	.0	.0	.0	.0	0.	.0	0.	.0	.1	.1
39 ONTARIO	.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.1	0.	0.
40 QUEBEC	0.	0.	0.	.3	.0	.0	.0	.0	.0	0.	.0	0.	4.4	.6	.0
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.3	0.	0.
TOTAL (KTON SO4)	32.0	12.1	.2	38.3	6.3	46.5	44.0	53.0	16.0	11.0	67.3	9.8	37.4	21.9	3.2

TABLE A-8 (continued)

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO4 WET DEPOSITIONS WITHIN RECEPTOR REGIONS														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1 ALABAMA	7.7	3.5	0.	0.	.0	.0	0.	.2	4.3	0.	2.6	.9	.7	.0	.0
2 ARKANSAS	.0	.6	0.	.0	.0	.0	0.	.0	.0	0.	.1	.1	.0	.0	.0
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	.0	0.	0.	.1	.9	0.	.6	.4	0.	0.	0.	1.5	.4	.1
5 FLORIDA	.4	.2	0.	.0	.0	.0	0.	.0	.5	0.	.2	.2	.0	.0	.5
6 GEORGIA	.2	.2	0.	0.	.0	.0	0.	.1	7.7	0.	2.2	.1	.3	.0	5.0
7 ILLINOIS	.8	4.0	0.	0.	.8	.6	0.	4.1	.1	0.	9.3	.3	6.1	1.0	.4
8 INDIANA	.7	.1	0.	0.	1.0	.9	0.	5.3	.6	0.	16.9	0.	9.1	1.1	.1
9 IOWA	.1	.4	0.	.1	.1	.0	0.	.4	.0	.0	.5	.4	.6	.2	.0
10 KANSAS	.0	.3	0.	.1	.0	.0	0.	.0	.0	.0	.0	.1	.0	.0	.0
11 KENTUCKY	.9	.0	0.	0.	.6	.5	0.	2.2	1.8	0.	14.0	0.	6.6	.9	.2
12 LOUISIANA	3.6	3.4	0.	.0	.0	.0	.1	.0	.0	0.	.2	.8	.1	.0	.1
13 MAINE	0.	0.	0.	0.	.2	0.	0.	0.	0.	0.	0.	0.	0.	.0	0.
14 MICHIGAN	0.	.0	0.	0.	2.3	.4	0.	8.5	.2	0.	4.6	0.	7.3	1.2	.2
15 MINNESOTA	.0	.0	0.	.0	.3	.0	0.	.4	.0	.0	.4	.1	.3	.1	.0
16 MISS.	2.5	1.1	0.	.0	.0	.0	0.	.0	.0	0.	.1	.2	.0	.0	.0
17 MISSOURI	.0	11.0	0.	.0	.2	.1	0.	.7	.0	0.	2.8	1.3	1.5	.1	.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	0.	.1	.0	.0	0.	.0	.0	.0	.0	.0	.0	.0	0.
20 NH/VT	0.	0.	0.	0.	1.3	.0	0.	.0	0.	0.	0.	0.	0.	.8	0.
21 NEW JERSEY	0.	0.	0.	0.	.1	2.2	0.	.7	.2	0.	0.	0.	.2	.9	.1
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	0.	2.7	1.1	0.	5.8	.1	0.	0.	0.	.6	5.2	0.
24 N CAROLINA	0.	.0	0.	0.	.2	.1	0.	.3	9.6	0.	.1	0.	.7	.3	1.7
25 N DAKOTA	0.	.0	.0	.1	.0	.0	0.	.0	0.	.1	.0	.0	.0	.0	0.
26 OHIO	0.	.0	0.	0.	3.0	1.2	0.	10.7	1.1	0.	10.2	0.	21.7	2.3	.7
27 OKLAHOMA	.0	.8	0.	.1	.0	.0	0.	.0	.0	0.	.0	1.2	.0	.0	.0
28 PENN.	0.	0.	0.	0.	3.8	3.9	0.	9.9	.7	0.	.2	0.	24.2	3.5	.2
29 RI/MA/CT	0.	0.	0.	0.	.1	.0	0.	.1	0.	0.	0.	0.	0.	1.0	0.
30 S CAROLINA	.0	.0	0.	0.	.0	.1	0.	.3	3.5	0.	.3	0.	.2	.2	4.7
31 S DAKOTA	0.	.0	.0	.0	.0	0.	0.	.0	0.	.0	.0	.0	.0	.0	0.
32 TENNESSEE	.6	.9	0.	0.	.1	.1	0.	.4	3.2	0.	2.3	0.	.6	.1	.3
33 TEXAS	.2	3.0	0.	1.4	.2	.0	.4	.0	.0	.1	.2	2.7	.2	.0	.0
34 VIRGINIA	0.	.0	0.	0.	.4	1.0	0.	.5	2.6	0.	.0	0.	1.7	.8	.3
35 W VIRGINIA	0.	0.	0.	0.	2.6	1.6	0.	7.7	.9	0.	2.2	0.	20.8	2.8	.4
36 WISCONSIN	.0	.0	0.	0.	.5	.1	0.	1.9	.2	0.	2.3	0.	7.4	.4	.1
37 MANITOBA	0.	.0	0.	0.	.0	.0	0.	.0	.0	.0	.0	0.	.0	.0	.0
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 ONTARIO	0.	0.	0.	0.	3.6	.3	0.	4.9	.0	0.		0.	1.7	.9	.0
40 QUEBEC	0.	0.	0.	0.	1.2	0.	0.	.7	0.	0.	(	0.	0.	.0	0.
41 NFWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO4)	17.8	29.7	.0	2.0	25.3	15.3	.6	66.4	37.6	.3	71.5	8.4	109.2	24.1	17.1

TABLE A-8 (concluded)

EMITTER REGION	TOTAL 31	CONTRIBUTIONS TO SO4 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 32	33	34	35	36	37	38	39	40	41
1 ALABAMA	0.	23.0	.5	2.3	2.3	.0	0.	.8	1.8	1.4	0.
2 ARKANSAS	0.	.1	.1	.0	.0	.1	0.	.0	.1	.0	0.
3 COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 DEL/MD/DC	0.	.0	0.	1.5	.2	0.	0.	.0	.0	.0	0.
5 FLORIDA	0.	1.2	.2	.2	.1	.0	0.	.0	.1	.0	0.
6 GEORGIA	0.	5.4	.0	2.3	2.3	0.	0.	.2	.6	.0	0.
7 ILLINOIS	0.	1.1	.2	1.4	3.3	3.1	0.	.7	4.4	1.5	0.
8 INDIANA	0.	2.9	0.	2.9	8.7	.2	0.	.7	6.9	2.9	.0
9 IOWA	.0	.0	.1	.0	.1	1.8	0.	.1	.8	.2	.0
10 KANSAS	.0	.0	.0	.0	.0	.1	0.	.0	.1	.0	.0
11 KENTUCKY	0.	4.9	0.	5.2	10.1	0.	0.	.4	1.8	1.5	0.
12 LOUISIANA	.0	.5	4.0	.2	.2	.2	0.	.0	.3	.1	0.
13 MAINE	0.	0.	0.	0.	0.	0.	0.	1.2	0.	.0	.0
14 MICHIGAN	0.	.0	0.	1.2	4.3	.1	0.	2.5	10.5	5.4	.1
15 MINNESOTA	.0	.0	.1	.1	.2	2.9	C.	.3	1.8	.8	.0
16 MISS.	0.	1.0	.2	.1	.1	.0	0.	.0	.2	.1	0.
17 MISSOURI	.0	.1	1.0	.6	1.4	1.6	0.	.1	.9	.1	.0
18 MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 NEBRASKA	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0	0.
20 NH/VT	0.	0.	0.	0.	0.	0.	0.	.6	0.	.0	.0
21 NEW JERSEY	0.	.0	0.	.1	.0	0.	0.	.4	0.	.0	0.
22 NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 NEW YORK	0.	0.	0.	.2	.0	0.	0.	1.4	.8	.7	.0
24 N CAROLINA	0.	.3	0.	5.6	1.5	0.	0.	.1	.0	.0	0.
25 N DAKOTA	.4	0.	.0	.0	.0	.1	.0	.0	.0	.0	0.
26 OHIO	0.	.1	0.	4.5	19.3	0.	0.	1.1	4.2	1.4	.0
27 OKLAHOMA	.0	.0	.1	.0	.0	.4	0.	.0	.0	.0	0.
28 PENN.	0.	.0	0.	4.5	4.4	0.	0.	1.2	.9	.7	0.
29 RI/MA/CT	0.	0.	0.	0.	0.	0.	0.	.2	0.	.0	0.
30 S CAROLINA	0.	.3	0.	.9	.4	0.	0.	.0	.0	.0	0.
31 S DAKOTA	.0	0.	.0	.0	.0	.0	0.	0	.0	.0	0.
32 TENNESSEE	0.	9.2	.0	3.9	3.8	.0	0.	.4	.3	1.0	0.
33 TEXAS	.2	.0	9.6	.0	.2	.6	0.	.0	.3	.1	0.
34 VIRGINIA	0.	.1	0.	10.8	2.2	0.	0.	.1	.0	.0	0.
35 W VIRGINIA	0.	.1	0.	5.7	18.9	0.	0.	1.5	.7	.0	0.
36 WISCONSIN	0.	.1	0.	.1	.7	4.5	0.	1.1	3.8	1.4	.0
37 MANITOBA	.0	.0	0.	.0	.0	.1	.0	.0	.3	.1	.0
38 N BRUNS	0.	0.	0.	0.	0.	0.	0.	1.1	0.	.2	.0
39 ONTARIO	0.	.0	0.	.4	.2	.0	0.	3.2	14.5	8.7	.1
40 QUEBEC	0.	0.	0.	0.	0.	0.	0.	2.3	.4	9.7	.1
41 NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO4)	.7	90.4	18.2	94.9	84.8	19.9	.0	22.1	64.5	38.4	.5

APPENDIX B

COMPARISON OF INTERREGIONAL EXCHANGES OF SO_2 AND $SO_4^=$ DRY AND WET DEPOSITIONS (kton) FOR JANUARY AND AUGUST 1977 CALCULATED BY ENAMAP-1A AND ENAMAP-1

TABLE B-1. JANUARY 1977 SO_2 DRY DEPOSITIONS (kton)

(a) ENAMAP-1A

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO2 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.4	.2	.1	.3	.0	.1	.1	.1	.1	.0	.0	.0	.0
2 V-NORTH	.1	22.0	17.2	2.2	.0	.2	14.3	.7	2.3	8.5	6.5	3.7	6.8
3 S. ONTARIO	.0	1.9	14.3	.0	0.	.0	.5	.0	.0	1.4	4.1	3.2	7.5
4 VII	.0	1.4	1.2	13.1	.0	3.1	7.5	5.1	7.5	1.9	.4	.3	.4
5 VIII-SOUTH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 VI-EAST	.0	.0	.0	1.3	.0	19.2	.3	4.1	.6	.1	.0	.0	.0
7 V-SOUTH	0.	3.3	7.6	4.4	0.	.4	60.9	6.2	30.7	37.2	8.1	3.2	4.3
8 IV-SOUTH	0.	.0	0.	.1	0.	1.2	.4	31.1	8.3	1.4	.0	.0	0.
9 IV-NORTH	0.	.2	.4	.2	0.	.3	6.6	8.6	44.6	11.2	1.3	.5	.1
10 III	0.	.9	1.9	0.	0.	0.	5.1	.1	5.6	47.8	10.6	3.5	1.7
11 II	0.	.5	1.7	0.	0.	0.	.0	0.	.0	1.1	10.1	4.0	1.3
12 I	0.	.8	.0	0.	0.	0.	0.	0.	0.	.0	.4	5.2	1.4
13 S. QUEBEC	0.	1.1	2.1	0.	0.	0.	.0	0.	.0	.1	.7	3.3	12.2
TOTAL (KTON SO2)	.5	32.1	46.5	21.6	.0	19.7	95.8	55.9	99.7	110.6	42.2	24.9	35.8

(b) ENAMAP-1

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO2 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	1.3	.1	.0	.4	.0	.1	.0	.0	.0	.0	.0	.0	.0
2 V-NORTH	.0	68.6	30.7	6.3	0.0	.1	31.7	.5	2.1	13.7	8.6	2.9	1.6
3 S. ONTARIO	.0	4.6	86.8	0.0	0.0	0.0	3.9	0.0	.1	10.5	16.3	7.2	8.3
4 VII	.0	1.4	.4	39.5	.0	4.1	14.2	5.9	11.1	1.7	.2	.1	.1
5 VIII-SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 VI-EAST	.0	.0	.0	1.1	.0	34.5	.0	3.8	.2	.0	.0	.0	0.0
7 V-SOUTH	0.0	6.8	7.9	8.3	0.0	.1	164.2	8.0	61.5	75.2	8.8	2.7	1.1
8 IV-SOUTH	0.0	0.0	0.0	.0	0.0	1.6	.1	79.4	15.8	.4	.0	.0	0.0
9 IV-NORTH	0.0	.0	.3	.1	0.0	.7	12.8	16.8	103.4	15.8	.9	.4	.1
10 III	0.0	.0	1.3	0.0	0.0	0.0	12.2	.0	12.5	131.5	16.3	4.0	.5
11 II	0.0	.0	3.5	0.0	0.0	0.0	.0	0.0	0.0	2.1	19.8	6.3	.6
12 I	0.0	0.0	.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	9.9	19.1	1.1
13 S. QUEBEC	0.0	.1	10.0	0.0	0.0	0.0	.0	0.0	0.0	.0	.8	8.1	26.0
TOTAL (KTON SO2)	1.3	81.6	140.8	55.8	.0	41.2	239.2	114.4	206.8	251.0	81.5	50.8	39.4

TABLE B-2. JANUARY 1977 SO_2 WET DEPOSITIONS (kton)

(a) ENAMAP-1A

EMITTER REGION	TOTAL	CONTRIBUTIONS TO SO2 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	0.
2 V-NORTH	.0	.4	.2	.0	0.	.0	.4	.0	.0	.3	.1	.1	.1	0.
3 S. ONTARIO	.0	.0	.1	.0	0.	0.	.0	.0	.0	.0	.1	.1	.1	0.
4 VII	.0	.0	.0	.6	.0	.3	.3	.2	.3	.1	.0	.0	.0	0.
5 VIII-SOUTH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 VI-EAST	0.	.0	.0	.1	.0	1.7	.0	.4	.0	.0	.0	.0	.0	0.
7 V-SOUTH	0.	.1	.1	.3	0.	.1	2.4	.3	1.3	1.9	.2	.1	.1	0.
8 IV-SOUTH	0.	0.	0.	.0	0.	.4	.0	3.6	1.2	.1	.0	0.	.0	0.
9 IV-NORTH	0.	.0	.0	.0	0.	.0	.4	.7	3.3	1.1	.0	.0	.0	0.
10 III	0.	.0	.0	0.	0.	0.	.2	.0	.3	3.0	.4	.2	.2	0.
11 II	0.	.0	.0	0.	0.	0.	0.	0.	0.	.1	.5	.2	.2	0.
12 I	0.	.0	0.	0.	0.	0.	0.	0.	0.	.0	.0	.3	.3	0.
13 S. QUEBEC	0.	.0	.0	0.	0.	0.	0.	0.	0.	.0	.0	.1	.1	0.
TOTAL (KTON SO2)	.0	.7	.4	1.0	.0	2.5	3.7	5.2	6.5	6.7	1.2	1.1	1.1	0.

(b) ENAMAP-1

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO2 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.2	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
2 V-NORTH	.0	22.2	15.9	.7	0.0	.0	8.5	.0	.2	3.3	2.3	.7	.8
3 S. ONTARIO	0.0	1.6	48.9	0.0	0.0	0.0	1.7	0.0	.0	2.2	6.5	1.8	4.1
4 VII	.0	1.0	.3	17.1	0.0	1.6	5.3	.6	1.8	.5	.1	.1	.2
5 VIII-SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 VI-EAST	.0	.0	.0	.6	.0	20.6	.0	2.5	.1	.0	.0	.0	0.0
7 V-SOUTH	0.0	3.0	5.5	7.5	0.0	.2	69.4	1.1	15.3	23.6	4.4	2.2	1.7
8 IV-SOUTH	0.0	0.0	0.0	.0	0.0	1.7	.3	55.9	14.3	.6	.0	.0	0.0
9 IV-NORTH	0.0	.0	.2	.2	0.0	.5	10.8	3.7	47.4	8.1	.7	.6	.4
10 III	0.0	.1	1.6	0.0	0.0	0.0	11.5	.0	2.7	72.2	7.3	4.5	.7
11 II	0.0	.0	3.8	0.0	0.0	0.0	.0	0.0	0.0	1.4	10.3	3.3	.6
12 I	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	.3	6.1	15.7	2.0
13 S. QUEBEC	0.0	.1	3.8	0.0	0.0	0.0	0.0	0.0	0.0	.0	.3	2.5	16.3
TOTAL (KTON SO2)	.2	28.0	80.1	26.1	.0	24.8	107.6	63.9	81.8	112.2	38.0	31.5	26.7

TABLE B-3. JANUARY 1977 $SO_4^=$ DRY DEPOSITIONS (kton)

(a) ENAMAP-1A

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO4 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.1	.2	.1	.2	.0	.2	.1	.1	.1	.1	.0	.0	.1
2 V-NORTH	.0	6.5	8.6	1.0	.0	.3	6.1	1.0	2.7	6.1	5.3	4.5	13.6
3 S. ONTARIO	.0	1.4	4.2	.0	0.	.0	.3	.0	.0	.8	2.5	3.1	10.2
4 VII	.0	1.0	1.3	4.3	.0	3.3	4.8	6.2	7.1	2.8	.5	.7	1.1
5 VIII-SOUTH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 VI-EAST	.0	.1	.0	1.8	.0	10.3	.5	5.4	1.2	.3	.0	.0	.0
7 V-SOUTH	0.	2.0	4.9	2.0	0.	.4	17.5	6.5	20.3	24.1	6.7	3.9	8.3
8 IV-SOUTH	0.	.0	0.	.1	0.	1.4	.3	14.0	7.1	1.7	.0	.0	0.
9 IV-NORTH	0.	.4	.3	.2	0.	.3	2.9	6.7	19.2	9.5	1.2	.5	.3
10 III	0.	.9	.8	0.	0.	0.	1.0	.1	2.6	13.8	5.8	2.7	2.7
11 II	0.	.5	.4	0.	0.	0.	.0	0.	.0	.4	2.6	1.9	1.6
12 I	0.	.7	.0	0.	0.	0.	0.	0.	0.	.0	.2	1.7	1.5
13 S. QUEBEC	0.	1.4	.8	0.	0.	0.	.0	0.	.0	.1	.4	2.4	9.4
TOTAL (KTON SO4)	.2	19.1	21.5	9.9	.0	16.2	33.4	48.0	60.3	69.7	25.3	21.5	48.7

(b) ENAMAP-1

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO4 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
2 V-NORTH	.0	3.1	3.5	.6	0.0	.1	2.8	.3	.8	2.5	1.8	1.1	1.2
3 S. ONTARIO	.0	.3	4.7	0.0	0.0	0.0	.4	0.0	.0	1.0	2.0	1.9	2.5
4 VII	.0	.3	.3	1.7	.0	.7	1.8	1.5	1.8	.6	.2	.2	.1
5 VIII-SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 VI-EAST	.0	.0	.0	.4	.0	2.6	.1	.7	.1	.0	.0	.0	.0
7 V-SOUTH	0.0	.6	1.9	.6	0.0	.1	8.1	1.7	6.4	8.6	2.2	1.2	1.1
8 IV-SOUTH	0.0	0.0	0.0	.0	0.0	.3	.0	4.3	1.3	.2	.0	.0	0.0
9 IV-NORTH	0.0	.0	.1	.0	0.0	.1	1.0	1.9	6.0	2.3	.4	.2	.0
10 III	0.0	.0	.3	0.0	0.0	0.0	.4	.0	1.1	6.0	1.9	.9	.4
11 II	0.0	.0	.1	0.0	0.0	0.0	.0	0.0	0.0	.1	.8	.6	.2
12 I	0.0	0.0	.0	0.0	0.0	0.0	0.0	0.0	0.0	.0	.4	1.0	.2
13 S. QUEBEC	0.0	.0	.5	0.0	0.0	0.0	.0	0.0	0.0	.0	.1	1.0	2.2
TOTAL (KTON SO4)	.1	4.4	11.5	3.4	.0	3.8	14.7	10.3	17.6	21.4	9.8	8.1	8.1

TABLE B-4. JANUARY 1977 $SO_4^=$ WET DEPOSITIONS (kton)

(a) ENAMAP-1A

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO4 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	0.
2 V-NORTH	.0	.2	.2	.1	0.	.0	.4	.1	.2	.6	.2	.2	0.
3 S. ONTARIO	.0	.1	.0	.0	0.	0.	.0	.0	.0	.1	.1	.2	0.
4 VII	.0	.0	.0	.4	.0	.6	.5	1.0	1.3	.4	.0	.0	0.
5 VIII-SOUTH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 VI-EAST	0.	.0	.0	.2	.0	2.1	.0	1.1	.1	.0	.0	.0	0.
7 V-SOUTH	0.	.1	.1	.4	0.	.1	1.7	1.0	3.1	2.9	.3	.2	0.
8 IV-SOUTH	0.	0.	0.	.0	0.	.7	.0	3.8	1.8	.2	.0	0.	0.
9 IV-NORTH	0.	.0	.0	.0	0.	.1	.4	1.8	4.2	1.8	.1	.1	0.
10 III	0.	.0	.0	0.	0.	0.	.1	.0	.4	2.4	.4	.2	0.
11 II	0.	.0	.0	0.	0.	0.	0.	0.	0.	.1	.3	.2	0.
12 I	0.	.0	0.	0.	0.	0.	0.	0.	0.	.0	.0	.2	0.
13 S. QUEBEC	0.	.0	.0	0.	0.	0.	0.	0.	0.	.0	.0	.2	0.
TOTAL (KTON SO4)	.0	.4	.4	1.2	.0	3.6	3.1	8.7	11.3	8.6	1.4	1.5	0.

(b) ENAMAP-1

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO4 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2 V-NORTH	.0	1.5	5.9	.2	0.0	.1	1.3	.2	.5	1.4	1.2	.8	1.1
3 S. ONTARIO	0.0	.3	6.6	0.0	0.0	0.0	.3	0.0	.0	.4	1.3	1.6	2.9
4 VII	.0	.3	.3	1.9	0.0	1.0	1.5	.8	1.5	.7	.2	.4	.1
5 VIII-SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 VI-EAST	.0	.0	.0	.4	.0	4.5	.2	1.3	.3	.0	.0	.0	0.0
7 V-SOUTH	0.0	.4	2.4	1.4	0.0	.3	7.4	2.1	5.7	7.4	2.2	2.3	1.6
8 IV-SOUTH	0.0	0.0	0.0	.0	0.0	1.4	.3	9.4	5.3	.9	.0	.0	0.0
9 IV-NORTH	0.0	.0	.2	.1	0.0	.2	2.1	2.9	7.8	4.0	.5	.6	.1
10 III	0.0	.0	1.0	0.0	0.0	0.0	.7	.1	1.2	6.7	2.2	2.4	.9
11 II	0.0	.0	.5	0.0	0.0	0.0	.0	0.0	0.0	.2	.9	.8	.4
12 I	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	.1	.8	2.5	1.0
13 S. QUEBEC	0.0	.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	.0	.1	1.0	3.0
TOTAL (KTON SO4)	.0	2.6	17.3	4.1	.0	7.5	13.8	16.8	22.2	21.9	9.3	12.5	11.1

TABLE B-5. AUGUST 1977 SO_2 DRY DEPOSITIONS (kton)

(a) ENAMAP-1A

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO2 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.3	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
2 V-NORTH	.0	12.5	11.7	.4	.0	.0	3.5	.1	.3	1.9	1.9	1.0	2.9
3 S. ONTARIO	.0	.6	11.2	.0	0.	0.	.1	.0	.0	.5	1.7	1.0	5.2
4 VII	.0	1.1	.6	7.0	.0	.6	3.3	.1	.4	.3	.1	.1	.2
5 VIII-SOUTH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 VI-EAST	.0	.1	.1	1.4	.0	10.0	.2	.8	.1	.0	.0	.0	.0
7 V-SOUTH	0.	2.9	4.2	1.9	0.	.4	28.1	1.1	7.3	13.4	2.7	1.4	1.5
8 IV-SOUTH	0.	.1	.2	.2	.0	1.3	.7	20.7	5.3	.4	.0	.0	.1
9 IV-NORTH	0.	.2	.7	.1	0.	.3	4.7	2.5	21.1	4.8	.4	.2	.3
10 III	0.	.6	.3	.0	0.	.0	1.5	.1	2.5	28.8	3.8	2.1	.3
11 II	0.	.3	.8	0.	0.	0.	0.	.0	.0	.3	3.3	2.2	.4
12 I	0.	.6	0.	0.	0.	0.	0.	0.	0.	0.	.0	2.3	.1
13 S. QUEBEC	0.	.7	1.2	0.	0.	0.	0.	0.	0.	.0	.1	1.1	10.2
TOTAL (KTON SO2)	.4	19.7	31.1	11.0	.0	12.6	42.1	25.3	37.0	50.5	14.1	11.3	21.3

(b) ENAMAP-1

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO2 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	1.1	.0	.0	.1	.0	.0	.0	0.0	.0	.0	.0	.0	.0
2 V-NORTH	.0	67.9	31.6	2.1	0.0	.1	18.5	.1	.6	4.3	2.5	.5	3.3
3 S. ONTARIO	.0	3.3	85.1	0.0	0.0	0.0	2.9	.0	.1	5.2	6.7	3.1	15.3
4 VII	.0	3.0	.7	38.5	.0	1.4	13.3	.2	.6	.1	.0	.0	.0
5 VIII-SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 VI-EAST	.0	.2	.0	3.1	.1	40.1	.2	1.4	.1	.0	.0	.0	.0
7 V-SOUTH	0.0	14.6	12.0	10.5	0.0	1.5	161.4	2.0	29.3	43.5	6.9	1.4	2.0
8 IV-SOUTH	0.0	.1	.5	.6	0.0	3.2	2.5	97.7	35.9	1.3	.0	.0	.1
9 IV-NORTH	0.0	.5	2.4	.6	0.0	1.8	29.7	6.2	93.5	13.8	.8	.2	.7
10 III	0.0	0.0	1.7	0.0	0.0	0.0	11.6	.1	7.0	142.8	18.7	5.1	.7
11 II	0.0	0.0	4.2	0.0	0.0	0.0	0.0	.0	.0	1.9	19.6	7.1	1.4
12 I	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.0	.0	4.6	17.2	1.2
13 S. QUEBEC	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	2.4	24.3
TOTAL (KTON SO2)	1.2	89.6	146.8	55.5	.1	48.1	240.2	107.6	167.2	213.0	60.0	37.0	49.0

TABLE B-6. AUGUST 1977 SO_2 WET DEPOSITIONS (kton)

(a) ENAMAP-1A

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO2 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.3	.1	.0	.1	.0	.0	.0	0.	.0	.0	.0	.0	.0
2 V-NORTH	.0	19.6	9.9	.6	0.	.0	5.6	.0	.1	3.3	2.9	1.6	1.3
3 S. ONTARIO	0.	1.8	8.5	.0	0.	0.	.0	.0	.0	.4	2.0	2.0	2.1
4 VII	.0	2.7	.5	17.9	.0	.4	10.9	.0	.4	.6	.1	.1	.0
5 VIII-SOUTH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 VI-EAST	.0	.3	.0	3.7	.0	15.5	1.2	.8	.4	.1	.0	.0	.0
7 V-SOUTH	0.	7.1	6.2	4.1	0.	.1	85.7	.1	10.3	34.9	7.2	3.1	.9
8 IV-SOUTH	0.	.2	.4	.5	0.	1.6	3.1	35.6	20.2	3.1	.0	.1	.1
9 IV-NORTH	0.	.3	.8	.2	0.	.3	19.8	1.6	43.1	19.0	.9	.7	.3
10 III	0.	.5	1.1	.0	0.	0.	4.3	.0	1.9	92.6	13.3	6.3	.3
11 II	0.	.4	.7	0.	0.	0.	0.	.0	.0	.9	12.1	8.3	.3
12 I	0.	1.2	0.	0.	0.	0.	0.	0.	0.	0.	.1	10.4	.0
13 S. QUEBEC	0.	.7	.3	0.	0.	0.	0.	0.	0.	0.	.3	2.6	4.3
TOTAL (KTON SO2)	.4	35.0	28.5	27.1	.0	17.9	130.7	38.3	86.5	149.8	38.9	35.1	9.6

(b) ENAMAP-1

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO2 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.6	.0	.0	.0	.0	.0	.0	0.0	.0	.0	.0	.0	.0
2 V-NORTH	.0	45.2	21.1	.9	0.0	.0	9.5	.0	.1	1.8	3.3	.4	.9
3 S. ONTARIO	.0	2.5	39.6	0.0	0.0	0.0	1.2	.0	.0	1.1	3.7	1.2	3.5
4 VII	.0	3.6	.7	25.0	.0	.3	13.0	.0	.3	.0	.0	.0	.0
5 VIII-SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 VI-EAST	.0	.1	.0	2.6	.1	37.6	.4	2.4	.1	.0	.0	.0	.0
7 V-SOUTH	0.0	12.7	11.7	7.6	0.0	.1	117.5	.4	17.9	31.7	8.8	.9	1.0
8 IV-SOUTH	0.0	.1	.5	.2	0.0	1.6	.9	93.0	23.6	1.7	.1	.0	.1
9 IV-NORTH	0.0	.2	2.0	.1	0.0	.4	12.7	1.9	66.2	14.8	1.5	.1	.2
10 III	0.0	0.0	1.6	0.0	0.0	0.0	11.2	.0	3.3	110.9	18.6	3.8	.5
11 II	0.0	0.0	3.7	0.0	0.0	0.0	0.0	.0	.0	1.3	18.0	5.9	.7
12 I	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.0	.0	5.5	13.7	.8
13 S. QUEBEC	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.0	.8	5.9
TOTAL (KTON SO2)	.6	64.5	83.3	36.6	.1	40.0	166.4	97.8	111.5	163.4	59.4	27.0	13.7

TABLE B-7. AUGUST 1977 $SO_4^=$ DRY DEPOSITIONS (kton)

(a) ENAMAP-1A

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO4 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.6	.2	.1	.4	.0	.0	.1	.0	.0	.0	.0	.0	.0
2 V-NORTH	.0	16.5	15.7	.9	.0	.5	7.6	2.1	3.3	9.6	6.4	6.0	19.8
3 S. ONTARIO	.0	2.7	11.5	.0	0.	0.	.2	.1	.2	2.0	3.6	4.3	23.9
4 VII	.1	2.2	1.5	11.9	.0	4.9	8.8	2.1	2.3	2.9	.9	.6	1.6
5 VIII-SOUTH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 VI-EAST	.2	.8	.5	6.6	.2	24.0	1.4	4.2	.8	.2	.1	.0	.9
7 V-SOUTH	0.	8.0	6.7	3.8	0.	5.7	36.7	11.7	22.7	36.6	9.5	7.4	10.0
8 IV-SOUTH	0.	.6	1.5	2.4	.0	7.6	3.8	52.2	19.9	2.1	.3	.3	1.5
9 IV-NORTH	0.	1.3	2.1	.5	0.	2.2	7.8	15.5	35.9	17.1	1.9	1.5	3.5
10 III	0.	4.1	.3	.0	0.	.0	.8	3.8	10.3	39.4	8.3	7.7	1.0
11 II	0.	1.5	.3	0.	0.	0.	0.	.1	.6	.7	3.6	3.6	1.8
12 I	0.	1.4	0.	0.	0.	0.	0.	0.	0.	0.	.0	1.8	.2
13 S. QUEBEC	0.	1.9	1.2	0.	0.	0.	0.	0.	0.	.0	.1	2.3	25.6
TOTAL (KTON SO4)	.9	41.2	41.6	25.9	.2	44.9	67.2	91.8	96.0	110.7	35.3	35.6	90.0

(b) ENAMAP-1

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO4 DRY DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.1	.0	.0	.1	.0	.0	.0	0.0	.0	.0	.0	.0	.0
2 V-NORTH	.0	3.9	4.3	.2	0.0	.1	1.7	.2	.5	1.7	1.1	.9	2.8
3 S. ONTARIO	.0	.1	5.5	0.0	0.0	0.0	.2	.0	.1	1.0	1.5	1.8	5.7
4 VII	.0	.6	.6	2.3	.0	.5	1.9	.1	.3	.2	.2	.2	.2
5 VIII-SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 VI-EAST	.0	.2	.1	1.3	.1	3.9	.3	.3	.1	.0	.0	.0	.0
7 V-SOUTH	0.0	1.7	3.2	.9	0.0	1.0	9.3	1.2	3.9	6.8	2.6	2.2	2.3
8 IV-SOUTH	0.0	.1	.5	.4	0.0	1.1	1.1	8.5	6.4	1.5	.2	.2	.5
9 IV-NORTH	0.0	.1	.7	.1	0.0	.3	2.4	1.6	6.9	4.6	.8	.6	.8
10 III	0.0	0.0	.2	0.0	0.0	0.0	.2	.2	1.2	10.0	3.4	2.8	.7
11 II	0.0	0.0	.1	0.0	0.0	0.0	0.0	.0	.1	.2	1.0	.9	.5
12 I	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.0	.0	.2	1.0	.2
13 S. QUEBEC	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.5	2.7
TOTAL (KTON SO4)	.1	6.8	15.6	5.2	.1	6.9	17.0	12.2	19.5	26.1	10.9	11.1	16.3

TABLE B-8. AUGUST 1977 $SO_4^=$ WET DEPOSITIONS (kton)

(a) ENAMAP-1A

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO4 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.6	.3	.0	.5	.0	.0	.1	0.	.0	.0	.0	.0	.0
2 V-NORTH	.0	25.8	24.9	1.8	0.	.4	11.2	.9	1.3	17.5	11.3	11.9	8.2
3 S. ONTARIO	0.	3.9	14.5	.0	0.	0.	.1	.0	.0	2.6	5.1	8.9	8.8
4 VII	.1	5.4	1.8	22.3	.0	3.3	23.6	.6	2.2	5.6	1.2	.9	.3
5 VIII-SOUTH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 VI-EAST	.3	2.0	.6	19.0	.2	33.8	6.7	6.4	2.3	.9	.1	.1	.2
7 V-SOUTH	0.	13.1	14.5	7.3	0.	1.7	93.4	4.6	24.7	87.3	22.7	14.6	5.9
8 IV-SOUTH	0.	2.0	2.7	6.6	0.	7.4	15.0	78.5	64.0	11.2	.4	1.2	1.5
9 IV-NORTH	0.	1.5	2.1	1.0	0.	.4	26.2	9.2	71.1	43.9	4.1	4.8	2.4
10 III	0.	2.9	1.6	.0	0.	0.	2.3	2.2	6.6	117.0	26.1	18.8	.8
11 II	0.	2.0	.8	0.	0.	0.	0.	.2	.4	1.3	9.8	11.9	.7
12 I	0.	2.1	0.	0.	0.	0.	0.	0.	0.	0.	.1	8.1	.1
13 S. QUEBEC	0.	2.3	.4	0.	0.	0.	0.	0.	0.	0.	.7	5.5	9.9
TOTAL (KTON SO4)	1.0	63.2	64.5	58.6	.2	47.0	178.5	102.7	172.5	287.3	81.7	86.8	38.8

(b) ENAMAP-1

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO4 WET DEPOSITIONS WITHIN RECEPTOR REGIONS 1	2	3	4	5	6	7	8	9	10	11	12	13
1 VIII-NORTH	.1	.0	.0	.1	.0	.0	.0	0.0	.0	.0	.0	.0	.0
2 V-NORTH	.0	6.2	5.3	.2	0.0	.0	.8	.1	.3	1.4	3.8	1.9	1.5
3 S. ONTARIO	.0	.1	3.7	0.0	0.0	0.0	.0	.0	.1	.5	2.2	2.6	3.2
4 VII	.0	2.4	1.2	3.6	.0	.2	5.4	.1	.5	.7	.6	.3	.3
5 VIII-SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 VI-EAST	.1	.4	.2	3.5	.1	6.5	1.4	1.1	.5	.1	.0	.0	.1
7 V-SOUTH	0.0	4.3	6.8	1.1	0.0	.2	14.6	.8	3.7	13.4	10.9	5.9	2.7
8 IV-SOUTH	0.0	.1	.7	.7	0.0	1.2	1.6	14.8	13.8	4.7	.5	.2	.8
9 IV-NORTH	0.0	.1	1.3	.1	0.0	.1	2.5	1.0	9.1	11.6	4.0	1.5	.8
10 III	0.0	0.0	.4	0.0	0.0	0.0	.2	.1	.9	14.0	12.6	7.6	.7
11 II	0.0	0.0	.3	0.0	0.0	0.0	0.0	.0	.1	.1	1.9	2.4	.5
12 I	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.0	.0	.3	2.4	.3
13 S. QUEBEC	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.0	.4	1.1
TOTAL (KTON SO4)	.2	13.6	20.0	9.3	.1	8.2	26.6	18.0	28.9	46.4	36.8	25.3	11.9

APPENDIX C

CALCULATED CONTRIBUTIONS (kton) OF STATES AND PROVINCES TO SO_2 AND $SO_4^=$ DRY AND WET DEPOSITIONS IN SPECIAL AREAS, JANUARY AND AUGUST 1977

TABLE C-1. JANUARY 1977 SO_2 DRY DEPOSITIONS (kton)

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO2 DRY DEPOSITIONS WITHIN SPECIAL RECEPTOR AREAS											
	N NEW HAMPSHIRE	ADIRON-DACK NY	S CENT. PENN	APPALAC-HIAN NC	N CENT. FLORIDA	N CENT. ARKANSAS	S LAKE MICHIGAN	ALGON-QUIN ONT	VEREN-DRYE QUE	FINGER LAKES NY	CHARLOT-TESVILLE	CHAMPAIGN ILLINOIS
ALABAMA	0.	0.	1.50	82.31	88.13	.49	0.	0.	0.	0.	18.49	0.
ARKANSAS	.03	.01	.29	1.43	1.19	9.96	.03	.00	0.	.18	.84	.68
COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEL/MD/DC	2.41	2.37	16.79	0.	0.	0.	0.	0.	0.	2.02	17.99	0.
FLORIDA	0.	0.	0.	2.67	60.57	0.	0.	0.	0.	0.	.28	0.
GEORGIA	0.	0.	.81	55.06	60.99	0.	0.	0.	0.	0.	20.25	0.
ILLINOIS	19.49	17.49	94.32	99.42	35.30	21.99	90.02	39.28	13.97	44.30	83.89	405.23
INDIANA	22.33	35.27	152.63	52.26	9.60	.63	7.73	34.49	3.29	94.33	175.08	117.25
IOWA	2.27	2.32	7.85	5.95	3.29	3.18	16.91	3.09	3.49	5.57	9.17	35.51
KANSAS	.12	.09	.16	.73	.32	3.21	1.19	.13	.00	.18	.28	.70
KENTUCKY	7.03	7.01	96.26	92.87	29.90	0.	0.	0.	0.	38.50	138.85	1.89
LOUISIANA	0.	0.	0.	.82	16.88	10.99	0.	0.	0.	0.	.00	1.95
MAINE	28.66	3.33	0.	0.	0.	0.	0.	0.	.03	0.	0.	0.
MICHIGAN	65.89	105.88	103.72	.28	.01	0.	577.99	62.26	36.52	296.96	59.41	8.89
MINNESOTA	8.17	6.19	19.22	6.28	2.98	.69	25.71	10.08	5.78	11.90	9.87	17.38
MISS.	0.	0.	.01	1.31	7.51	2.19	0.	0.	0.	0.	.21	.01
MISSOURI	5.72	1.69	11.99	51.90	21.56	85.59	8.83	9.21	.43	5.06	17.01	91.20
MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEBRASKA	.07	.03	.08	.19	.18	.96	.49	.02	.06	.04	.09	.99
NH/VT	59.17	7.29	0.	0.	0.	0.	0.	0.	.20	0.	0.	0.
NEW JERSEY	9.20	2.51	1.95	0.	0.	0.	0.	.22	0.	4.01	0.	0.
NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW YORK	56.29	77.18	2.79	0.	0.	0.	0.	5.77	.59	206.07	0.	0.
N CAROLINA	.29	.10	5.98	99.99	2.67	0.	0.	0.	0.	.25	26.75	0.
N DAKOTA	.29	.14	.35	.30	.14	1.07	.41	.14	.16	.30	.26	1.32
OHIO	29.01	62.56	347.72	0.	.03	0.	0.	.20	0.	176.10	229.37	.39
OKLAHOMA	.09	.03	.33	1.05	.39	9.06	1.95	.00	0.	.07	1.66	.61
PENN.	28.79	57.32	521.21	0.	0.	0.	0.	1.59	0.	102.09	79.79	0.
RI/MA/CT	9.66	7.83	0.	0.	0.	0.	0.	.09	0.	1.69	0.	0.
S CAROLINA	0.	0.	1.22	6.82	9.97	0.	0.	0.	0.	0.	12.97	0.
S DAKOTA	.07	.03	.09	.13	.09	.18	.06	.02	.03	.05	.05	.15
TENNESSEE	.05	.01	20.23	178.96	53.29	1.53	0.	0.	0.	.18	41.42	.06
TEXAS	.05	.01	.55	2.09	1.20	13.85	1.08	.16	0.	.12	.22	2.92
VIRGINIA	2.90	.69	14.55	0.	1.76	0.	0.	0.	0.	1.28	139.03	0.
W VIRGINIA	33.81	21.99	380.37	0.	.17	0.	0.	0.	0.	65.19	409.43	0.
WISCONSIN	20.55	23.99	27.12	6.62	2.16	.71	212.90	28.75	16.81	47.11	27.69	39.80
MANITOBA	.42	.30	.38	.05	.05	.13	1.91	.30	.35	.59	.22	.66
N BRNS	1.22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ONTARIO	93.90	122.39	29.88	.07	.02	.01	8.77	169.30	90.52	189.35	6.55	1.19
QUEBEC	98.39	49.29	.06	0.	0.	0.	.00	11.00	128.66	6.28	.00	0.
NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO2)	596.2	615.1	1770.7	688.6	399.3	185.2	994.9	366.0	300.3	1260.1	1508.5	722.7

TABLE C-2. JANUARY 1977 SO_2 WET DEPOSITIONS (kton)

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO2 WET DEPOSITIONS WITHIN SPECIAL RECEPTOR AREAS: N NEW HAMPSHIRE	ADIRON-DACK NY	S CENT. PENN	APPALAC-HIAN NC	N CENT. FLORIDA	N CENT. ARKANSAS	S LAKE MICHIGAN	ALGON-QUIN ONT	VEREN-DRYE QUE	FINGER LAKES NY	CHARLOT-TESVILLE	CHAMPAIGN ILLINOIS
ALABAMA	0.	0.	.35	8.90	1.28	.01	0.	0.	0.	0.	.53	0
ARKANSAS	0.	0.	.01	.20	.00	.77	.00	0.	0.	0.	.01	.00
COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEL/MD/DC	.03	0.	6.94	0.	0.	0.	0.	0.	0.	0.	1.1A	0.
FLORIDA	0.	0.	0.	.15	5.61	0.	0.	0.	0.	0.	0.	0.
GEORGIA	0.	0.	.11	30.75	1.53	0.	0.	0.	0.	0	1.29	0.
ILLINOIS	0.	0.	3.69	9.43	.38	3.7A	1.92	0.	0.	0.	2.7A	22.03
INDIANA	.38	0.	23.02	2.59	1.09	0.	0.	0.	0.	0.	10.06	A.11
IOWA	.11	0.	.96	.32	.12	.15	.42	0.	0.	0.	.47	.81
KANSAS	.00	0.	.01	.15	0.	.05	.00	0.	0.	0.	.02	.01
KENTUCKY	.00	0.	6.49	5.30	1.7A	0.	0	0.	0.	0.	5.9A	.07
LOUISIANA	0.	0.	0.	.0A	1.41	.27	0.	0.	0.	0.	0.	0.
MAINE	.7A	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MICHIGAN	.09	0.	6.36	0.	0.	0.	A.03	0.	0.	0.	3.43	1.7A
MINNESOTA	.02	0.	.49	.13	.15	.04	.97	0.	0.	0.	.11	.2A
MISS.	0.	0.	.00	.1A	.05	.0A	0.	0.	0.	0.	.00	0.
MISSOURI	.00	0.	.95	3.6A	.10	5.A1	.10	0.	0.	0.	1.21	3.AA
MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEBRASKA	.00	0.	.00	.02	0.	.02	.00	0.	0.	0.	.01	.02
NH/VT	.35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW JERSEY	.3A	0.	.57	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW YORK	.35	0.	.44	0.	0.	0.	0.	0.	0.	0.	0.	0.
N CAROLINA	0.	0.	.2A	5.10	.99	0.	0.	0.	0.	0.	10.72	0.
N DAKOTA	0.	0.	.03	.00	0.	.00	.00	0.	0.	0.	.01	.0A
OHIO	.0A	0.	.4A.4A	0.	0.	0.	0.	0.	0.	0.	15.75	.21
OKLAHOMA	.00	0.	.04	.0A	0.	.2A	.03	0.	0.	0.	.01	.00
PENN.	.42	0.	59.46	0.	0.	0.	0.	0.	0.	0.	3.1A	0.
RI/MA/CT	.19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
S CAROLINA	0.	0.	.10	A.05	1.9A	0.	0.	0.	0.	0.	2.6A	0.
S DAKOTA	.00	0.	.00	.01	.00	.00	0.	0.	0.	0.	.00	.01
TENNESSEE	0.	0.	1.93	21.47	.55	.13	0.	0.	0.	0.	1.3A	0.
TEXAS	0.	0.	.07	.1A	.00	.9A	.00	0.	0.	0.	.01	0.
VIRGINIA	.03	0.	1.15	0.	.27	0.	0.	0.	0.	0.	20.99	0.
W VIRGINIA	.1A	0.	4A.25	0.	.03	0.	0.	0.	0.	0.	11.A2	0.
WISCONSIN	.32	0.	2.00	.21	0.	.02	7.7A	0.	0.	0.	.62	1.50
MANITOBA	.01	0.	.04	.01	0.	.01	.02	0.	0.	0	.00	.02
N BRUNS	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ONTARIO	1.1A	0.	.6A	.00	.00	0.	.02	0.	0.	0.	.22	.0A
QUEBEC	1.1A	0.	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEWFOUND	0.	0.	0.	0.	0.	0	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO2)	A.0	0.	212.A	92.9	17.2	12.1	19.1	0.	0.	0.	9A.1	3A.A

TABLE C-3. JANUARY 1977 $SO_4^=$ DRY DEPOSITIONS (kton)

EMITTER REGION	N NEW HAMPSHIRE	ADIRON-DACK NY	TOTAL S CENT. PENN	CONTRIBUTIONS TO SO4 DRY DEPOSITIONS WITHIN SPECIAL RECEPTOR AREAS: APPALACHIAN MT	N CENT. FLORIDA	N CENT. ARKANSAS	LAKE MICHIGAN	ALGONQUIN ONT	VERENDRYE ONT	FINGER LAKES NY	CHARLOTTESVILLE	CHAMPAIGN ILLINOIS
ALABAMA	0.	0.	2.14	117.90	79.52	1.30	0.	0.	0	0	24.22	0
ARKANSAS	.13	.02	.80	4.03	2.58	9.42	.02	.00	0.	.29	1.16	.40
COLORADO	0.	0.	0.	0.	0.	0.	0.	0	0	0	0	0
DEL/MD/DC	2.37	3.86	9.30	0.	0.	0.	0.	0	0	0	0	0
FLORIDA	0.	0.	0.	5.23	18.65	0	0.	0	0	1.10	4.11	0
GEORGIA	0.	0.	.68	37.43	39.90	0.	0.	0	0	0	.25	0
ILLINOIS	37.28	28.83	74.83	133.40	51.78	20.40	19.50	44.04	24.28	44.01	94.10	102.20
INDIANA	34.15	54.89	162.79	56.53	6.37	.02	1.16	41.09	3.91	41.43	152.74	32.61
IOWA	5.84	5.06	11.73	19.05	6.45	2.44	6.98	4.33	9.50	7.48	11.84	14.31
KANSAS	.53	.12	.28	2.21	.49	2.31	.71	.17	.00	.14	4.1	7.0
KENTUCKY	4.73	8.41	73.22	71.86	34.79	0.	0	0	0.	29.22	129.33	.82
LOUISIANA	0.	0.	0.	2.08	27.69	20.49	0.	0	0	0.	.01	1.20
MAINE	12.61	3.65	0.	0.	0.	0.	0.	0	0	.02	0	0
MICHIGAN	74.01	136.52	61.52	.42	.03	0.	25.25	44.20	44.74	113.90	47.87	4.48
MINNESOTA	22.08	14.47	23.35	15.49	6.52	.40	12.48	19.89	19.44	11.88	9.18	13.44
MISS.	0.	0.	.03	2.78	9.19	4.35	0.	0	0	0	.30	.02
MISSOURI	17.57	3.36	22.88	97.94	30.81	79.19	4.64	15.64	1.12	7.42	27.12	48.47
MONTANA	0.	0.	0.	0.	0.	0.	0.	0	0	0	0	0
NEBRASKA	.24	.08	.22	.91	.41	1.11	.28	.04	.24	.14	.19	.44
NH/VT	27.12	4.60	0.	0.	0.	0.	0	0	.10	0.	0	0
NEW JERSEY	8.89	4.10	.44	0.	0.	0.	0.	.10	0.	1.44	0	0
NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0	0	0	0	0
NEW YORK	45.54	70.28	1.73	0.	0.	0.	0.	3.14	.34	44.04	0	0
N CAROLINA	.35	.23	7.39	14.32	4.28	0.	0.	0	0	20	14.15	0
N DAKOTA	1.24	.71	1.01	.84	.54	2.04	.54	.44	.05	.85	7.6	1.58
OHIO	30.25	71.47	235.22	0.	.05	0.	0.	.18	0	91.03	121.09	.12
OKLAHOMA	.50	.07	.92	3.41	.84	9.69	1.17	.00	0.	1.08	2.10	.71
PENN.	25.75	44.86	147.35	0.	0.	0.	0.	.46	0	41.22	18.25	0
RI/MA/CT	3.36	6.81	0.	0.	0.	0.	0.	.01	0	.99	0	0
S CAROLINA	0.	0.	1.69	8.33	10.62	0.	0.	0.	0	0	0	0
S DAKOTA	.21	.07	.12	.43	.09	.22	.07	.09	.14	.04	.10	.14
TENNESSEE	.09	.04	36.51	109.63	58.01	2.18	0	0	0	.25	10.17	.04
TEXAS	.50	.07	2.60	6.76	2.84	28.68	2.36	1.00	0	.44	1.05	4.79
VIRGINIA	3.36	1.64	15.85	0.	1.90	0.	0.	0	0	1.00	40.78	0
W VIRGINIA	28.00	22.78	144.13	0.	.50	0.	0.	0	0	33.12	140.91	0.
WISCONSIN	32.93	40.90	32.27	8.97	3.70	.54	35.72	41.28	34.54	34.33	24.64	17.84
MANITOBA	1.32	.44	.90	.16	.15	.19	1.04	.71	1.14	.77	.42	.44
N BRUNS	1.24	0.	0.	0.	0.	0.	0	0	0	0	0	0
ONTARIO	44.44	113.44	25.74	.15	.04	.01	3.34	74.12	74.87	42.74	1.47	.47
QUEBEC	43.54	27.07	.04	0.	0.	0.	.00	4.11	44.44	3.87	.00	0
NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0	0	0	0	0
TOTAL (KTON SO4)	581.7	691.4	1099.9	716.3	391.2	184.2	115.3	310.4	289.4	691.4	962.0	299.0

TABLE C-4. JANUARY 1977 $SO_4^=$ WET DEPOSITIONS (kton)

EMITTER REGION	TOTAL CONTRIBUTIONS TO $SO_4^=$ WET DEPOSITIONS WITHIN SPECIAL RECEPTOR AREAS											
	N NEW HAMPSHIRE	ADIRON-DACK NY	S CENT. PENN	APPALAC-HIAN NC	N CENT. FLORIDA	N CENT. ARKANSAS	S LAKE MICHIGAN	ALGON-QUIN ONT	VEREN-DRYE QUE	FINGER LAKES NY	CHARLOT-TESVILLE	CHAMPAIGN ILLINOIS
ALABAMA	0.	0.	.79	14.42	7.41	.05	0.	0.	0.	0.	1.22	0.
ARKANSAS	0.	0.	.05	.71	.01	1.31	.00	0.	0.	0.	.03	.00
COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEL/MD/DC	.09	0.	5.28	0.	0	0.	0.	0.	0.	0.	.98	0.
FLORIDA	0.	0.	0.	.27	3.11	0.	0.	0.	0.	0.	0.	0.
GEORGIA	0	0.	.22	22.99	1.39	0.	0.	0.	0.	0.	2.63	0.
ILLINOIS	0.	0.	6.60	10.79	1.41	8.29	1.27	0.	0.	0.	11.07	12.16
INDIANA	.48	0.	30.76	3.65	2.80	0.	0.	0.	0.	0.	21.85	2.47
IOWA	.23	0.	1.99	2.37	.63	.33	.59	0.	0.	0.	1.89	.88
KANSAS	.00	0.	.05	.67	0	.04	.00	0.	0.	0.	.14	.01
KENTUCKY	.00	0.	10.51	7.89	7.42	0.	0.	0.	0.	0.	16.02	.05
LOUISIANA	0.	0.	0.	.43	5.70	.36	0.	0.	0.	0.	0.	0.
MAINE	.28	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MICHIGAN	.37	0.	7.74	0.	0.	0.	1.79	0.	0.	0.	6.63	2.02
MINNESOTA	.10	0.	1.45	.08	.08	.07	1.22	0.	0.	0.	.73	.60
MISS.	0.	0.	.01	.51	.17	.15	0.	0.	0.	0.	.00	0.
MISSOURI	.01	0.	2.54	11.73	.59	10.96	.11	0.	0.	0.	5.54	4.05
MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEBRASKA	.00	0.	.01	.10	0.	.04	.00	0.	0.	0.	.04	.03
NH/VT	.34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW JERSEY	.69	0.	.53	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW YORK	.27	0.	.08	0.	0.	0.	0.	0.	0.	0.	0.	0.
N CAROLINA	0.	0.	.02	2.25	3.32	0.	0.	0.	0.	0.	12.20	0.
N DAKOTA	0.	0.	.17	.01	0.	.02	.01	0.	0.	0.	.05	.12
OHIO	.10	0.	46.28	0.	0.	0.	0.	0.	0.	0.	29.35	.15
OKLAHOMA	.01	0.	.18	.55	0.	.52	.06	0.	0.	0.	.29	.00
PENN.	.68	0.	35.25	0.	0.	0.	0.	0.	0.	0.	3.95	0.
RI/MA/CT	.16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
S CAROLINA	0.	0.	.17	4.90	4.90	0.	0.	0.	0.	0.	3.73	0.
S DAKOTA	.00	0.	.01	.08	.01	.00	0.	0.	0.	0.	.03	.02
TENNESSEE	0.	0.	3.98	31.39	1.36	.72	0.	0.	0.	0.	2.27	0.
TEXAS	0.	0.	.56	1.03	.00	2.41	.01	0.	0.	0.	.07	0.
VIRGINIA	.03	0.	1.38	0.	1.58	0.	0.	0.	0.	0.	16.53	0.
W VIRGINIA	.13	0.	37.11	0.	.14	0.	0.	0.	0.	0.	21.09	0.
WISCONSIN	.08	0.	4.12	.50	0.	.03	3.55	0.	0.	0.	2.49	2.69
MANITOBA	.05	0.	.12	.09	0.	.05	.06	0.	0.	0.	.01	.09
N BRUNS	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ONTARIO	2.50	0	.92	.00	.00	0.	.01	0.	0.	0.	.25	.06
QUEBEC	1.25	0.	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
NFLD/LAB	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON $SO_4^=$)	8.5	0.	199.7	127.3	37.6	25.3	8.7	0.	0.	0.	156.0	27.3

TABLE C-5. AUGUST 1977 SO_2 DRY DEPOSITIONS (kton)

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO2 DRY DEPOSITIONS WITHIN SPECIAL RECEPTOR AREAS											
	N NEW HAMPSHIRE	ADIRON-DACK NY	S CENT. PENN	APPALAC-HIAN NC	N CENT. FLORIDA	N CENT. ARKANSAS	S LAKE MICHIGAN	ALGON-QUIN ONT	VEREN-DRYE QUE	FINGER LAKES NY	CHARLOT-TESVILLE	CHAMPAIGN ILLINOIS
ALABAMA	.17	.27	2.00	49.83	10.39	6.76	.04	2.24	.52	.33	1.70	2.37
ARKANSAS	.00	.01	.06	.05	.00	8.88	.76	.01	.07	.02	.11	.74
COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEL/MD/DC	.99	.45	12.32	.02	.11	.00	0.	0.	0.	.01	11.08	0.
FLORIDA	.01	.00	.05	.87	45.17	.40	.02	.01	.00	.00	.09	.04
GEORGIA	.16	.84	1.41	129.63	16.68	.34	.00	.00	0.	.83	1.98	.06
ILLINOIS	9.43	9.00	24.56	3.19	.37	8.73	98.95	7.48	7.39	10.44	9.37	306.80
INDIANA	7.91	15.88	50.31	14.63	.43	.00	35.81	20.50	6.02	23.56	18.14	44.73
IOWA	.36	.66	.93	.17	.00	.51	13.88	1.02	.28	1.41	.03	6.03
KANSAS	.01	.01	.06	.00	.00	.59	.22	.02	.00	.02	.00	.45
KENTUCKY	4.89	7.96	40.30	44.77	.35	.00	.08	6.17	.29	15.48	35.16	3.69
LOUISIANA	.01	.11	.10	.05	2.40	13.30	.82	.10	.16	.03	.33	1.50
MAINE	4.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MICHIGAN	18.38	39.74	46.38	1.41	.27	0.	334.27	58.59	20.07	85.16	6.61	.83
MINNESOTA	1.01	2.18	.66	.11	.00	.57	19.85	1.92	3.71	2.88	.63	1.07
MISS.	.00	.00	.03	.05	.61	3.73	.36	.13	.32	.03	.17	1.00
MISSOURI	.87	.78	5.99	.35	.20	15.31	10.63	.11	.90	3.20	.78	63.05
MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEBRASKA	.01	.01	.02	.00	0.	.03	.20	.01	.00	.03	0.	.08
NH/VT	35.60	.22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW JERSEY	2.06	.14	0.	.00	.12	0.	0.	0.	0.	0	.00	0.
NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW YORK	32.34	45.26	1.20	0.	0.	0.	0.	0.	0.	129.64	.21	0.
N CAROLINA	.21	.21	3.45	69.42	1.32	.00	0.	0.	0.	.15	27.07	.00
N DAKOTA	.00	.00	.01	.00	0.	.00	.03	.03	.02	.00	.00	.02
OHIO	23.44	60.56	200.97	12.37	.45	.00	.01	1.12	1.51	59.19	50.38	.01
OKLAHOMA	.00	.00	.03	.01	.01	2.05	.04	.00	.01	.01	.00	.78
PENN.	50.40	38.99	496.56	.00	.43	0.	0.	.05	0.	38.72	29.04	0.
RI/MA/CT	.23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
S CAROLINA	.06	.09	.32	21.03	2.47	.00	0.	0.	0.	.21	3.84	.00
S DAKOTA	.00	.00	.00	.00	0.	.00	.04	.00	.01	.00	0.	.01
TENNESSEE	.72	.60	2.77	77.61	.39	.68	.88	2.38	1.34	1.25	6.77	3.82
TEXAS	.00	.01	.12	.00	.02	7.03	.38	.08	.08	.02	.03	1.17
VIRGINIA	.26	.83	9.62	7.60	.65	.00	0.	0.	0.	.04	124.81	.00
W VIRGINIA	29.11	24.59	389.06	2.69	.21	0.	0.	0.	0.	16.62	57.97	0.
WISCONSIN	3.98	7.54	4.10	1.35	.05	.00	197.47	9.63	5.40	8.72	.96	2.31
MANITOBA	.01	.04	.01	.00	.00	0.	.12	.13	.13	.04	.03	.02
N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ONTARIO	30.40	96.46	10.12	.00	.04	0.	.02	88.46	119.54	87.57	9.73	0.
QUEBEC	22.35	18.02	0.	0.	0.	0.	0.	.22	91.64	.01	0.	0.
NFLD/LAB	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
[illegible]	274.5	371.5	1303.5	432.2	83.2	68.9	674.9	200.4	259.4	489.6	397.0	440.6

TABLE C-6. AUGUST 1977 SO_2 WET DEPOSITIONS (kton)

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO2 WET DEPOSITIONS WITHIN SPECIAL RECEPTOR AREAS: N NEW HAMPSHIRE	ADIRON-DACK NY	S CENT. PENN	APPALAC-HIAN NC	N CENT. FLORIDA	N CENT. ARKANSAS	S LAKE MICHIGAN	ALGON-QUIN ONT	VEREN-DRYE QUE	FINGER LAKES NY	CHARLOT-TESVILLE	CHAMPAIGN ILLINOIS
ALABAMA	.40	.01	10.26	253.22	7.14	21.93	0.	2.42	.04	.12	11.43	26.60
ARKANSAS	.01	.00	.14	.10	.00	16.35	.37	0.	.02	.04	.14	4.03
COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEL/MD/DC	3.40	.20	63.47	.00	0.	0.	0.	0.	0.	.03	29.58	0.
FLORIDA	.02	0.	.41	4.59	128.27	2.30	0.	.10	0.	.01	.39	.15
GEORGIA	.02	.03	19.41	856.91	12.34	.04	0.	.32	0.	.04	14.35	.08
ILLINOIS	6.72	18.86	50.23	.20	.00	1.55	240.01	1.43	7.85	33.77	5.95	1005.85
INDIANA	13.81	36.15	141.73	4.30	0.	0.	216.08	4.30	4.99	89.79	21.52	18.86
IOWA	.79	1.16	3.46	.00	.00	.11	19.00	.17	.38	1.88	.03	11.22
KANSAS	.00	.00	.28	.00	0.	.29	.20	.02	.00	.02	.00	1.64
KENTUCKY	9.94	3.23	129.03	19.54	0.	0.	0.	.74	.32	38.43	45.08	.00
LOUISIANA	.00	.10	.66	.08	3.43	29.97	3.16	.00	.17	.02	1.37	4.75
MAINE	18.11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MICHIGAN	64.47	126.39	57.38	.00	0.	0.	396.92	11.31	4.62	139.98	2.51	1.65
MINNESOTA	2.98	1.49	.33	.00	0.	.01	11.63	.00	1.12	1.21	.04	1.80
MISS.	.01	.00	.32	.33	.25	11.13	.67	.00	.47	.03	.79	4.94
MISSOURI	2.27	.81	17.89	.08	.00	.44	10.30	.03	0.	2.88	1.30	204.00
MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEBRASKA	.00	.07	.09	.00	0.	.02	.43	.01	0.	.03	0.	.43
NH/VT	259.96	1.14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW JERSEY	12.45	2.25	0.	.00	.10	0.	0.	0.	0.	0.	.01	0.
NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW YORK	139.30	219.20	.12	0.	0.	0.	0.	0.	0.	184.24	.09	0.
N CAROLINA	1.04	1.41	15.61	166.23	0.	0.	0.	0.	0.	.03	108.95	.00
N DAKOTA	.00	.00	.00	0.	0.	0.	.05	0.	.01	.00	.00	.04
OHIO	87.63	164.40	690.94	.02	0.	0.	0.	5.60	0.	263.39	41.76	.00
OKLAHOMA	0.	.01	.09	.01	.00	3.22	.05	0.	0.	.03	.01	3.27
PENN.	167.48	145.44	1270.08	.00	0.	0.	0.	0.	0.	172.95	23.08	0.
RI/MA/CT	1.61	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
S CAROLINA	.31	.58	.91	20.36	0.	0.	0.	0.	0.	.88	8.72	.00
S DAKOTA	0.	.00	.00	0.	0.	0.	.04	0.	.00	.00	0.	.00
TENNESSEE	1.68	.15	15.29	181.20	0.	.05	0.	.18	.38	6.31	33.57	11.12
TEXAS	.00	.01	.57	.00	.10	16.81	.28	0.	.00	.02	.15	9.96
VIRGINIA	1.97	0.	52.44	.08	0.	0.	0.	0.	0.	.00	336.96	.00
W VIRGINIA	134.80	63.54	1725.64	.03	0.	0.	0.	0.	0.	155.35	71.85	0.
WISCONSIN	5.83	7.93	13.68	.19	0.	.00	119.03	1.09	2.28	11.15	.17	3.80
MANITOBA	.03	.03	.02	.00	0.	0.	.01	.04	.18	.01	.01	.17
N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ONTARIO	94.35	124.12	10.74	.00	0.	0.	.03	23.93	38.94	174.80	1.70	0.
QUEBEC	50.74	55.49	0.	0.	0.	0.	0.	0.	70.50	0.	0.	0.
NFLD/LAND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO2)	1089.2	970.2	4311.2	1507.5	151.6	104.2	1018.3	51.8	132.3	1277.4	771.5	1318.4

TABLE C-7. AUGUST 1977 $SO_4^=$ DRY DEPOSITIONS (kton)

EMITTER REGION	TOTAL CONTRIBUTIONS TO SO4 DRY DEPOSITIONS WITHIN SPECIAL RECEPTOR AREAS											
	N NEW HAMPSHIRE	ADIRON-DACK NY	S CENT. PENN	APPALAC-HIAN NC	N CENT. FLORIDA	N CENT. ARKANSAS	S LAKE MICHIGAN	ALGON-QUIN ONT	VEREN-DRYE QUE	FINGER LAKES NY	CHARLOT-TESVILLE	CHAMPAIGN ILLINOIS
ALABAMA	1.67	2.61	8.69	216.89	169.58	75.31	.02	22.16	19.51	1.59	3.37	16.80
ARKANSAS	.05	.10	.51	.12	1.05	22.67	1.96	.11	.67	.16	.56	2.15
COLORADO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEL/MD/DC	2.19	1.29	9.65	3.17	13.17	.01	0.	0.	0.	0.	37.70	0.
FLORIDA	.10	.02	.19	13.12	75.65	1.07	.01	.02	.00	.02	.42	.11
GEORGIA	1.01	8.18	9.38	324.44	80.29	6.36	.00	.01	0.	2.62	9.81	1.13
ILLINOIS	28.32	68.95	157.07	36.83	56.11	96.55	50.06	28.80	33.97	105.93	42.57	381.04
INDIANA	32.60	65.69	216.04	86.56	40.91	.21	19.91	69.65	28.22	78.80	78.17	76.99
IOWA	6.88	12.23	10.50	2.01	.73	5.56	19.96	9.50	1.93	10.66	.85	29.14
KANSAS	.02	.05	.70	.02	.06	1.47	.51	.29	.06	.10	.01	2.81
KENTUCKY	17.14	33.40	139.88	207.27	58.36	.01	.45	21.16	2.25	40.66	194.20	15.54
LOUISIANA	.14	4.01	2.20	1.80	31.28	82.34	4.90	3.58	6.11	.63	2.76	14.70
MAINE	2.91	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MICHIGAN	75.50	125.88	174.14	31.55	44.60	0.	39.96	142.14	90.95	191.14	63.98	4.66
MINNESOTA	17.77	36.92	7.98	3.02	.62	9.39	26.89	16.85	37.72	24.69	17.66	3.98
MISS.	.07	.03	.15	1.96	23.13	25.55	1.55	2.11	7.10	.22	1.59	5.62
MISSOURI	4.38	7.12	52.20	3.64	35.14	102.18	8.16	.54	3.98	23.80	9.84	160.17
MONTANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEBRASKA	.16	.18	.25	.00	0.	.23	.43	.07	.02	.14	0.	.41
NH/VT	26.39	.29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW JERSEY	3.98	.08	0.	1.14	8.62	0.	0.	0.	0.	0.	.10	0.
NEW MEXICO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NEW YORK	60.98	68.15	4.36	0.	0.	0.	0.	0.	0.	67.27	5.08	0.
N CAROLINA	5.76	6.08	29.35	110.41	42.93	.02	0.	0.	0.	3.00	84.19	.00
N DAKOTA	.18	.06	.27	.00	0.	.01	.20	.37	.30	.04	.02	.89
OHIO	91.47	168.37	432.19	132.56	48.09	.00	.00	5.85	11.56	113.16	173.27	.02
OKLAHOMA	.01	.05	.31	.05	1.19	12.94	.17	.03	.04	.15	.02	2.83
PENN.	119.16	127.19	475.98	3.42	62.11	0.	0.	.08	0.	53.25	127.18	0.
RI/MA/CT	.28	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
S CAROLINA	1.02	2.59	3.88	72.83	34.54	.08	0.	0.	0.	3.04	23.13	.03
S DAKOTA	.14	.02	.04	.00	0.	.01	.14	.04	.06	.00	0.	.21
TENNESSEE	9.41	6.90	18.09	161.32	30.79	14.03	3.93	12.67	15.39	5.62	30.96	12.76
TEXAS	.21	.30	.90	.08	1.17	30.45	4.83	2.79	2.34	.35	.05	4.47
VIRGINIA	4.55	1.72	38.14	71.15	36.84	.10	0.	0.	0.	.35	160.94	.01
W VIRGINIA	124.31	81.06	542.19	24.62	23.48	0.	0.	0.	0.	40.89	148.10	0.
WISCONSIN	51.18	75.85	36.77	28.40	11.54	.02	79.33	47.33	34.46	93.60	16.36	7.47
MANITOBA	.11	.54	.38	.00	.06	0.	.63	1.06	1.84	.50	1.28	.22
N BRUNS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ONTARIO	119.47	242.37	51.90	.84	7.12	0.	.06	190.84	198.24	116.74	56.66	0.
QUEBEC	50.76	16.51	0.	0.	0.	0.	0.	.22	126.65	.02	0.	0.
NEWFOUND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL (KTON SO4)	860.3	1169.8	2418.9	1539.2	934.1	486.4	263.6	573.3	618.4	929.8	1300.4	739.3